COLEGIO DE SAN JUAN DE LETRAN CALAMBA

A CULTURE OF CONSCIENCE, DISCIPLINE, AND EXCELLENCE

PROGRAM CATALOGUE

C.Y. 2023-2024

Colegio de San Juan de Letran Calamba

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PROGRAM CATALOGUE
C.Y. 2023-2024

Collegiate Edition

Revised 2023

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Vision

In a culture of Conscience, Discipline, and Excellence, we envision Letran Calamba as a leading Catholic academic institution, a hub of educational technology and innovation, and a vital formation center in the religious and sustainable socio-economic developments in the Asia-Pacific region by 2029.

Mission

We, the Colegio de San Juan de Letran Calamba, a Catholic educational institution, commit ourselves to the total human development and better quality of life of our stakeholders, and the promotion of a socially-responsive community through a global and innovative education that is Dominican in orientation.

Institutional Quality Policy

To realize the institutional vision and to fulfill the mission of Letran Calamba, the Colegio commits itself to deliver consistently quality education to its students and quality service to its stakeholders through a relevant outcomes-based instruction, sustained research and community extension culture, and continually improved quality management systems.

Institutional Principles

A Culture of Conscience, Discipline, and Excellence inspired by Filipino, Dominican, Christian ideals and values.

Institutional Core Values

DEUS
Truth
Fidelity

PATRIA
Compassion
Patriotism

LETRAN
Loyalty
Academic Excellence

Strategic Directional Area Based Quality Objectives

INSTRUCTION. To provide and sustain excellent academic programs characterized by quality and innovative teaching and learning practices.

RESEARCH. To produce impactful and quality researches by developing competencies of faculty, employees, and students and provide avenues for research collaboration, dissemination, and utilization.

COMMUNITY AND EXTENSION SERVICES. To strengthen Letran Calamba's solidarity with the larger community through programs that is compassionate and responsive to its needs, especially the marginalized.

FINANCIAL SUSTAINABILITY. To attain financial sustainability through alternative resources and judicious fund management in order to fund Colegio's programs particularly, in areas of innovation and personnel development.

DOMINICAN EMPOWERMENT. To provide faith-based and integral formation programs for all stakeholders, meaningful Liturgical Celebrations and devotions, and community Engagement activities responsive to the signs of the times.

NETWORKING AND LINKAGES. [1] To ensure adequate student population through continuous engagements with academic institutions, communities and organizations. [2] To establish engaging collaborations with industry companies to sustain link between education practices and industry competencies.

PHYSICAL AND INFORMATION TECHNOLOGY. [Physical] To ensure, through optimal readiness of infrastructure, that the Colegio de San Juan de Letran-Calamba be an institution of choice by 2029. [IT] To thrust Colegio de San Juan de Letran-Calamba by 2029 as an institution of choice and leader in the region in connected learning through platforms characterized by technological innovations.

STUDENT SERVICES AFFAIRS. To promote flexible and seamless student services and programs that support learning and development as well as promote optimal student engagement and satisfaction.

ADMINISTRATION SYSTEM AND HUMAN RESOURCE. [Administration] To ensure organizational efficiency and continual improvement through internal audit, certification, and accreditation. [HR] To provide an adequate, competent, and engaged workforce.

SCHOOL OF EDUCATION, ARTS, AND SCIENCES

Vision

The School of Education, Arts, and Sciences is envisioned to uphold Dominican identity and academic ingenuity with a conscientious mind towards achieving students' excellence.

Mission

The School of Education, Arts, and Sciences is committed on providing top-notch professors to support the Colegio's educational goals and objectives in developing exemplary mental health specialists, creative communicators, glocally competitive educators, and well-rounded individuals.

PROGRAM DESCRIPTION

Bachelor of Arts in Communication (BA Comm) is a four-year program that encompasses Journalism, Development Communication, Broadcasting, Communication Research, Multimedia and Digital Studies, Film, Public Relations, Advertising, and the performing arts, such as theatrical productions. Print journalism, broadcasting for TV and radio, event management, marketing, communication management, and entrepreneurship are the outputs that students are expected to complete. Its curriculum is especially created to give students the abilities and knowledge necessary to succeed in the fast-paced communication environment. Graduates of the BA in Communication are expected to have a thorough understanding of the field, from media systems to communication theory and history.

The program assures that students become highly skilled professionals with a strong emphasis on the role of communication in fostering social change as well as possessing an understanding of purpose and a desire to make a difference. At the end of the four-year program, students should be introduced to different communication and media industries through an internship and research.

Program Educational Objectives

Three to five years after graduation, the Bachelor of Arts in Communication (BA Comm) alumni shall:
1. Manifest high quality of job performance;
2. Apply a well-rounded communication process in the workplace with focus and emphasis on media and communication professions;
3. Assume career works in areas as excellent media and communication practitioners, leaders, advertising managers, multimedia designers, researchers, communications analysts, technical writer, and professionals in jobs related to the field of mass communication;
4. Display a deep level of understanding of the role of communication in social change overtime and across the globe; and
5. Demonstrate expanded and integrated perspective on complex media systems, technologies, communication strategies, and communication theory and history.

Program Outcomes and Performance Indicators

Upon completion of Bachelor of Arts in Communication (BA Comm), the graduate, who is trained in a culture of conscience and excellence with Filipino, Dominican, and Christian in orientation, must be able to:

Program Outcomes	Performance Indicators
1. Articulate and discuss the latest developments in the specific field of practice	• Engage in continual learning in one's specialization
2. Effectively communicate orally and in writing using English, Filipino, mother tongue language, and an appropriate Foreign Language required by the industry	• Express oneself clearly in verbal or written forms the updates in one's career or vocation • Convey positive Filipino values in one's decisions and actions • Defend satisfactorily his/her thesis from a panel of experts

3. Work effectively and independently in multi-disciplinary and multi-cultural teams	• Perform well as a team leader or member in any kind of group project or activity • Perform independently and cooperatively to accomplish worthwhile goals
4. Preserve and promote Filipino historical and cultural heritage (based on RA No. 7722)	• Demonstrate responsible Filipino citizenship in local, national or international communities
5. Participate in various types of employment, development activities, and public discourses, particularly in response to the needs of the communities one serves	• Plan and take action for the welfare of the community • Continually engage oneself in development projects and activities that address the community needs
6. Manifest strong commitment and conviction to the Christian and Dominican teachings and philosophy in thoughts, words, and deeds	• Observe the Dominican values of study, prayer, community, and service • Uphold ecological consciousness and engage in environmental stewardship • Participate actively in the community's spiritual and social advocacy or extension program
7. Apply social science concepts and theories to the analysis of social issues	• Get involved in community immersion to investigate a social issue that may contribute to its solution

8. Design and execute social science research using appropriate approaches and methods	• Undertake researches regarding a social issue in a community, institution or workplace utilizing social concepts and theories leading to a solution to the issue
9. Practice professional and ethical standards in the fields of social sciences and communication	• Adhere to appropriate professionalism and ethical standards regarding respect, honesty, impartiality and willingness to accept each own weakness • Immerse in an actual working environment in industry
10. Define and access information needs; assess and organize information and knowledge; produce, share and utilize information and knowledge	• Efficient accessing and gathering of need-based, accurate, authentic, and reliable information through print, broadcast, and online sources, research, and other investigative techniques • Skillful selection, analysis, organization, and presentation of essential information in the development and production of print, broadcast, and online stories • Appropriate and responsible sharing and use of information and knowledge generated from different sources

11. Communicate in different formats and platforms (print, broadcast, and online)	• Clear and effective writing for different for • mats and platforms • Clear, fluent, and engaging delivery of speeches, broadcast news and commentaries, and other oral presentations • Effective and responsible use of non-verbal cues, pictures, graphics, and images in oral and online communication
12. Prepare communication/media plan	• Evidence-based situational analysis • Audience-specific communication objectives and strategies • Concrete monitoring and evaluation indicators
13. Conduct communication and media research and evaluation	• Prepare a critical and comprehensive literature review and exhaustive research • Employ appropriate research or evaluation framework • Apply research or evaluation design • Present findings and conclusions of the study • Communicate effectively the recommendations

14. Develop and produce communication materials in different formats and platforms	• Creative and innovative conceptualization and design of audience-specific communication materials • Skillful and responsible use of relevant technical equipment and software • Skillful use of gender and culture-sensitive and politically-correct language in message development
15. Demonstrate communication management and leadership skills	• Efficient and effective use of resources • Sound design of communication programs and projects • Competent use of planning, monitoring, and evaluation (controlling) tools
16. Develop entrepreneurial capabilities	• Skillful business analysis and identification of communication-driven business opportunities • Innovative and creative engagement in business ventures • Effective use of marketing communication strategies
17. Adhere to ethical standards and practices	• Demonstrate strong foundation in philosophy and ethical system • Clear understanding of professional codes of conducts, standards, and practices • Ethical in making choices and decisions professionally

	- Maintain stature and behavior that uphold the Professional Code of Ethics - Immerse in an actual working environment in industry
18. Know and practice rights and responsibilities and accountabilities in the communication profession	- Clear understanding of freedom, rights, and responsibilities - Observance of communication media laws - Clear understanding of the role of media in a democratic society
19. Demonstrate a development orientation in communication work	- Clear understanding of local, national, and global development issues and agenda - Clear understanding of development theories and paradigms - Deft integration of development issues and concerns in communication projects
20. Apply communication theories/models, principles, practices and tools in development work	- Skillful use of participatory strategies in planning, implementing, and evaluating communication programs - Skillful use of communication strategies in mediation, regulation, and resolution

BACHELOR OF ARTS IN COMMUNICATION
GENERAL SUMMARY OF COURSES

I. General Education Courses

A. Core Courses   24

GEC003	Understanding the Self	3
GEC013	Science, Technology, and Society	3
GEC023	Mga Babasahin Hinggil sa Kasaysayan ng Pilipinas	3
GEC033	Mathematics in the Modern World	3
GEC043	The Contemporary World	3
GEC053	Art Appreciation	3
GEC063	Purposive Communication	3
GEC073	Ethics	3

B. CHED Mandated Courses   26

a. Rizal Course

RZL023	Buhay at Mga Akda ni Rizal	3

b. Physical Education Courses

PATHFIT1002	Movement Competency Training	2
PATHFIT2022	Exercise Based Fitness Activities	2
PATHFIT3032	Individual/Dual Sports	2
PATHFIT4042.	Contemporary Dance	2

c. National Service Training Program

NSTP1-18.	National Service Training Program 1	3
NSTP2-18	National Service Training Program 2	3

d. GENED Elective Courses

GECELEC1.	Living in the IT Era	3
GECELEC2	The Entrepreneurial Mind	3
GECELEC3	Philippine Pop Culture	3

C. Institutional Mandated Courses   18

a. Religious Education Courses

RELED053	The Catholic Christian Faith	3

RELED063	Contemporary Issues in Christian Marriage	3
RELED073	Contemporary Issues About Church and Human Society with	3
RELED083	Christian Ethics	3

b. Letran Quality Enrichment Courses

| LQEC23-013 | Letran Quality Enhancement Course I (Letran Calamba Identity | 3 |
| LQEC23-023 | Letran Quality Enhancement Course II (21st Century Literacy | 3 |

II. Professional Education Courses

A. Core Courses 21
BACOMM003	Introduction to Communication Media	3
BACOMM013	Communication Theory	3
BACOMM023	Communication Media Laws and Ethics	3
BACOMM133	Communication Research	3
BACOMM143	Communication Culture and Society	3
BACOMM223	Communication Planning	3
BACOMM263	Communication Management	3

B. CHED Required Courses 9
BACOMM093	Development Communication	3
BACOMM403	Risk, Disaster, and Humanitarian Communication	3
BBCOMM203	Knowledge Management	3

B. Required Courses based on Institutional and Program Outcomes 18
BACOMM153	Journalism Principles and Practices	3
BACOMM163	Broadcasting Principles and Practices	3
BACOMM183	Advertising Principles and Practices	3
BACOMM193	Public Relation Principles and Practices	3
BACOMM413	Integrated Marketing Communication	3
BACOMM423	Social Media and Mobile Technology for Communication	3

C. Elective Courses
Communication Related Electives 15
| BACOMM122 | Introduction to Theater Arts | 2 |
| BACOMM121L | Introduction to Theater Arts Lab | 1 |

BACOMM433	Multimedia and Mobile Technology for Communication	3
BACOMM243	Performance Media	3
BACOMM283	Organizational Culture and Communication	3
BACOMM233	Creative Writing	3

Social Sciences/Humanities Electives   15

BAELEC-2	Philippine Arts	3
BAELEC-3	Digital Imaging	2
BAELEC-3L	Digital Imaging Lab	1
BAELEC-5	Basic Photography	2
BAELEC-5L	Basic Photography Lab	1
BAELEC-6	Web Content Management	3
BAELEC-7	Film Production	2
BAELEC-7L	Film Production Lab	1

D. Thesis   6

BACOMM-THA	Thesis 1	3
BACOMM-THB	Thesis 2	3

E. Internship   6

BACOMM-PRC6	Communication Internship (600 hrs)	6

TOTAL UNITS   158

BACHELOR OF ARTS IN COMMUNICATION
Curriculum Year 2023-2024

COURSE CODE	COURSE TITLE	Lec Units/Hrs	Lab Units	Lab Hrs	TOTAL	PRE-REQUISITES/ CO-REQUISITES
FIRST YEAR, First Semester						
BACOMM003	Introduction to Communication Media	3			3	
BACOMM013	Communication Theory	3			3	
BACOMM143	Communication Culture and Society	3			3	
GEC003	Understanding the Self	3			3	
GEC023	Mga Babasahin Hinggil sa Kasaysayan ng Pilipinas	3			3	
GEC043	The Contemporary World	3			3	
LQEC23-013	Letran Quality Enhancement Course I (Letran Calamba Identity and 21st Century Learning Skills)	3			3	
RELED053	The Catholic Christian Faith	3			3	
	Total	**24**	**0**	**0**	**24**	
FIRST YEAR, Second Semester						
BACOMM023	Communication Media Laws and Ethics	3			3	BACOMM003
BACOMM093	Development Communication	3			3	BACOMM003, BACOMM143
BACOMM223	Communication Planning	3			3	
GEC053	Art Appreciation	3			3	
GEC063	Purposive Communication	3			3	
LQEC23-023	Letran Quality Enhancement Course II (21st Century Literacy Skills & Life Skills and Sustainability)	3			3	LQEC23-013
NSTP1-18	National Service Training Program 1	3			3	
PATHFIT1002	Movement Competency Training	2			2	
	Total	**23**	**0**	**0**	**23**	
SECOND YEAR, First Semester						
BACOMM193	Public Relation Principles and Practices	3			3	BACOMM023
BACOMM283	Organizational Culture and Communication	3			3	BACOMM003, BACOMM013
BACOMM403	Risk, Disaster, and Humanitarian Communication	3			3	BACOMM093
BACOMM413	Integrated Marketing Communication	3			3	
BACOMM233	Creative Writing	3			3	
GECELEC2	The Entrepreneurial Mind	3			3	
NSTP2-18	National Service Training Program 2	3			3	NSTP1-18
PATHFIT2022	Exercise Based Fitness Activities	2			2	PATHFIT1002

_____	RELED083	Christian Ethics	3		3	RELED053

			Total	26	0	0	26	

SECOND YEAR, Second Semester

	Code	Course	Lec	Lab	Hrs	Units	Prerequisite
_____	BACOMM153	Journalism Principles and Practices	3			3	BACOMM003, BACOMM013
_____	BACOMM163	Broadcasting Principles and Practices	3			3	BACOMM093
_____	BAELEC-2	Philippine Arts	3			3	
_____	BAELEC-3L	Digital Imaging Lab		1	3	1	co-req BAELEC-3, BAELEC-5, BAELEC-5L
_____	BAELEC-3	Digital Imaging	2			2	co-req BAELEC-3L, BAELEC-5, BAELEC-5L
_____	BAELEC-5	Basic Photography	2			2	co-req BAELEC-5L, BAELEC-3, BAELEC-3L
_____	BAELEC-5L	Basic Photography Lab		1	3	1	co-req BAELEC-5, BAELEC-3, BAELEC-3L
_____	GEC013	Science, Technology, and Society	3			3	
_____	GECELEC1	Living in the IT Era	3			3	
_____	RELED063	Contemporary Issues in Christian Marriage	3			3	RELED053
_____	PATHFIT3032	Individual/Dual Sports	2			2	PATHFIT1002, PATHFIT2022
		Total	24	2	6	26	

THIRD YEAR, First Semester

	Code	Course	Lec	Lab	Hrs	Units	Prerequisite
_____	BACOMM133	Communication Research	3			3	BACOMM013
_____	BACOMM183	Advertising Principles and Practices	3			3	BACOMM193
_____	BACOMM263	Communication Management	3			3	BACOMM283
_____	BACOMM423	Social Media and Mobile Technology for Communication Campaigns	3			3	
_____	BACOMM243	Performance Media	3			3	BACOMM163
_____	GEC033	Mathematics in the Modern World	3			3	
_____	PATHFIT4042	Contemporary Dance	2			2	PATHFIT1002, PATHFIT2022
_____	RELED073	Contemporary Issues About Church and Human Society with Immersion	3			3	RELED053
		Total	20	0	0	20	

THIRD YEAR, Second Semester

	Code	Course	Lec	Lab	Hrs	Units	Prerequisite
_____	BACOMM203	Knowledge Management	3			3	BACOMM283
_____	BAELEC-6	Web Content Management	3			3	BACOMM263
_____	BACOMM-THA	Thesis 1	3			3	BACOMM133
_____	BAELEC-7	Film Production	2			2	BAELEC-5, BAELEC-5L, co-req BAELEC-7L

	Code	Title					Prerequisite
_____	BAELEC-7L	Film Production Lab		1	3	1	BAELEC-6, BAELEC-6L, co-req BAELEC-7
_____	GEC073	Ethics	3			3	
_____	GECELEC3	Philippine Pop Culture	3			3	
		Total	**17**	**1**	**3**	**18**	

FOURTH YEAR, First Semester

	Code	Title					Prerequisite
_____	BACOMM121L	Introduction to Theater Arts Lab		1	3	1	BACOMM223, co-req BACOMM122
_____	BACOMM122	Introduction to Theater Arts	2			2	BACOMM223, co-req BACOMM121L
_____	BACOMM433	Multimedia and Mobile Technology for Communication Campaigns	3			3	BACOMM313
_____	BACOMM-THB	Thesis 2	3			3	BACOMM-THA
_____	RZL023	Buhay at Gawa ni Rizal	3			3	
		Total	**11**	**1**	**3**	**12**	

FOURTH YEAR, Second Semester

	Code	Title					Prerequisite
_____	BACOMM-PRC6	*Communication Internship (600 hrs)	6			6	BACOMM263, BACOMM-THB
		Total	**6**	**0**	**0**	**6**	
		GRAND TOTAL	**151**	**4**	**12**	**155**	

Practicum/Internship - No simultaneous enrollment is allowed.

COURSE DESCRIPTION

I. GENERAL EDUCATION COURSE

A. CORE COURSES

GEC003 - Understanding the Self   **3 units**

The course discusses the nature of identity, its factors and forces that affect the development and maintenance of personal identity. It is intended to facilitate the exploration of the issues and concerns regarding self and identity to arrive at a better understanding of one's self. It strives to meet this goal by stressing the integration of the personal with the academic — contextualizing matters discussed in the classroom and in the everyday experiences of students — making for better learning, generating a new appreciation for the learning process, and developing a more critical and reflective attitude while enabling them to manage and improve their selves to attain a better quality of life.

This also includes mandatory topics on Family Planning and Population Education. *Pre-req: None; Co-req: None*

GEC013 - Science, Technology, and Society   **3 units**

The course deals with interactions between science and technology and social cultural, political, and economic contexts, which shape and are shaped by them.

The interdisciplinary course engages students to confront the realities brought about by science and technology in society. Such realities pervade the personal, the public, and the global aspects of our living and are integral to human development. Scientific knowledge and technological development happen in the context of society with all its socio-political, cultural, economic, and philosophical underpinnings at play. This course seeks to instill reflective knowledge in the students that they are able to live the good life and display ethical decision making in the face of scientific and technological advancement.

This also includes discussion of climate change and environmental awareness as well as the implementation of the different environmental protection laws. *Pre-req: None; Co-req: None*

GEC023 - Mga Babasahin Hinggil sa Kasaysayan ng Pilipinas   **3 units**

Ang kursong ito ay tumatalakay sa mga piling primaryang sanggunian ukol sa iba't ibang yugto ng kasaysayan ng Pilipinas, pagsusuri at interpretasyon. Isasama din ang pagtalakay sa konstitusyon ng Pilipinas simula sa taong 1899 hanggang sa taong 1987. Ganun din ang pagtalakay sa repormang agraryo. Gayundin ang pagtalakay sa pagbubuwis bilang instrumento ng pamahalaan. Ito ay may kaugnayan sa tibay ng pagbubuwis bilang isa sa tatlong kapangyarihan ng pamahalaan na nakasaad sa Saligang Batas taong 1987. *Pre-req: None; Co-req: None*

GEC033 - Mathematics in the Modern World   3 units

The course discusses the nature of Mathematics, appreciation of its practical, intellectual, and aesthetic dimensions, and application of mathematical tools in daily life. *Pre-req: None; Co-req: None*

GEC043 - The Contemporary World   3 units

The course discusses globalization and its impact on individuals, communities and nations, challenges and responses. It introduces students to the contemporary world by examining the multifaceted phenomenon of globalization. Using the various disciplines of the social sciences, it examines the economic, social, political, technological, and other transformations that have created an increasing awareness of the interconnectedness of people and places around the globe. It provides an overview of the various debates in global governance, development, and sustainability. Beyond exposing the student to the world outside the Philippines, it seeks to inculcate a sense of global citizenship and global ethical responsibility.

This also includes mandatory topics on population education in the context of population and demography. *Pre-req: None; Co-req: None*

GEC053 - Art Appreciation   3 units

The course discusses the nature, function and appreciation of the arts in contemporary society. It intends to develop students' ability to appreciate, analyze, and critique works of art. Through interdisciplinary and multimodal approaches, this course equips students with a broad knowledge of the practical, historical, philosophical, and social relevance of the arts. This will hone their ability to articulate their understanding of the arts. It will also develop students' competency in researching and curating arts as well as conceptualizing, mounting, and evaluating art productions. The course aims to develop students' genuine appreciation for Philippine arts by providing them opportunities to explore the diversity and richness and their rootedness in Filipino culture. *Pre-req: None; Co-req: None*

GEC063 - Purposive Communication   3 units

The course discusses writing, speaking and presenting to different audiences and for various purposes. It develops students' communicative competence and enhances their cultural and intercultural awareness through multimodal tasks that provide them opportunities for communicating effectively and appropriately to a multicultural audience in a local or global context. It equips students with tools for critical evaluation of a variety of texts and focuses on the power of language and the impact of images to emphasize the importance of conveying messages responsibly. *Pre-req: None; Co-req: None*

GEC073 – Ethics   3 units

This course covers the context and tenets of ethical behavior in modern society including how individuals and communities interact with the environment and other common resources. It helps one to enhance their grasp of ethics and moral reasoning through the study of numerous theoretical viewpoints and moral experiences that make up so much of the core of daily life. By the end of the course, students should be able to articulate

why and how people are seen as moral beings existing in a moral universe with a responsibility to protect themselves, one another, and the environment for everyone. *Pre-req: None; Co-req: None*

B. GENERAL EDUCATION ELECTIVE COURSES

GECELEC1 - Living in the IT Era   3 units
This general education elective course discusses how information technology shaped that way of life in the modern era. It discusses the science, culture and ethics information technology as well as how it affects contemporary life and interpersonal interactions and the way it may be used to promote one's social, professional, and personal goals. *Pre-req: None; Co-req: None*

GECELEC2 - The Entrepreneurial Mind   3 units
This general education elective course focuses on the nature and fundamentals of entrepreneurship as well as its societal responsibilities and repercussions. It is designed to assist students comprehend the business environment and encourage individuals adopt and innovative mindset. *Pre-req: None; Co-req: None*

GECELEC3 - Philippine Popular Culture   3 units
This general education elective course focuses on the emerging potential and expectation of mass audiences, markets and mass media, as well as their social, economic, and political settings, in the field of art, music, and literature. By the completion of the course, students should be able to demonstrate their appreciation of traditional and modern cultural expressions of as well as identify, analyze and develop trends in Philippine culture that have been inspired by various internal and external influences.
Pre-req: None; Co-req: None

C. CHED MANDATORY COURSES

RZL023 - Buhay at Mga Akda ni Rizal   3 units
Ito'y isang pag-aaral sa buhay at gawa ni Gat. Jose Rizal at ang kaugnayan at kahalagahan sa nilalaman ng pangkasaysayang pagsulong ng lipunang Pilipino. Gamit ang istratehiyang 'Dambana" kung saan ang mag-aaral ay maglalaan ng panahon sa Bahay-Rizal sa Calamba, ang mag-aaral ay magiging kabahagi ng Rizal Shrine staff sa edukasyong pangkasaysayan ng mga panauhin sa Bahay-Rizal. *Pre-req: None; Co-req: None*

D. INSTITUTIONAL MANDATED COURSES

LQEC23-013 - Letran Quality Enrichment Course I (Letran Calamba Identity and 21st Century Learning Skills)   3 units
LQEC 1 is an enhancement course that is designed to introduce the identity of Colegio de San Juan de Letran Calamba including its history, Dominican spirituality, mission, vision, quality objectives, policies , processes and services. It also introduces the "Four Cs" of 21st Century Learning: Critical Thinking, Creativity, Collaboration and Communication that aims to enhance students' knowledge and awareness of the essential communication concepts and establish deep comprehension of the processes in a creative manner.
Furthermore, it helps the learners to formulate logical and well-thought-out reasoned judgments and promote active engagement with others to achieve a common goal. *Pre-req: None; Co-req: None*

LQEC23-023 - Letran Quality Enrichment Course II (21st Century Literacy Skills & Life Skills and Sustainability) 3 units

LQEC 2 is an enhancement course that is designed to provide basic understanding about leadership, flexibility, initiative, social skills and productivity. It also introduces digital literacy which focuses on fundamental understanding of media, technology, and information as tools for communication and the advancement of people and communities.

Moreover, the course also introduces the concept of Environment, Social, and Governance (ESG) which determines an organization's commitment to sustainability. All of these are necessary to help the learners become competitively employable in the future of work. *Pre-req: LQEC23-013; Co-req: None*

RELED053 - The Catholic Christian Faith 3 units

This course deals with the basic Catholic Christian Doctrine. It highlights the 12 articles of faith in the Apostles Creed, as well as the Sacred Scripture. Thus it guides the students to a life of truth, fidelity and worship to God. *Pre-req: None; Co-req: None*

RELED063 - Contemporary Issues in Christian Marriage 3 units

Contemporary Issues in Christian Marriage is a three unit academic subject. The emphasis of the course is on Marriage and Family presented as a vocation and a sacrament. The study prepares the students for the reception of the sacrament and achievement of a better outlook on the realities and complexities of the married state and family life. *Pre-req: RELED053; Co-req: None*

RELED073 - Contemporary Issues About Church and Human Society with Immersion 3 units

Contemporary Issues About Church and Human Society with Immersion is a three unit academic subject. This course studies the seven themes of the social teachings of the Catholic Church. It also tackles contemporary social issues which hamper the development of our country. An integral part of the course is Makipamuhay, a learning strategy that allows students to experience direct contact with the oppressed in society specifically the rural poor and leads them to develop personal as well as communal witnessing to authentic Christian faith. *Pre-req: RELED053; Co-req: None*

RELED083 - Christian Ethics 3 units

This course presents the foundations and fundamentals of Christian Ethics and their application to issues and concerns related to the Ten Commandments. *Pre-req: RELED053; Co-req: None*

E. PHYSICAL EDUCATION COURSES

PATHFIT1002 - Movement Competency Training 2 units

This course provides training in different movement and core engagement in conjunction with principles of healthy and physical active life. Students will be able to adopt and transfer the movement competency in different contexts. *Pre-req: None; Co-req: None*

PATHFIT2022 - Exercise-Based Fitness
2 units

This course provides experiences in core stability, strength, and mobility training. It includes goal setting exercise progression and regression and periodic assessment for the development of various fitness component. *Pre-req: PATHFIT1002; Co-req: None*

PATHFIT3032 - Individual/Dual Sports
2 units

This course puts emphasis on gaining basic knowledge of individual/dual sports, fitness and lifetime activities. It also includes different kinds of individual/dual sports. Students will learn the skills and game strategies for each sport as well as their historical background and terminology. Activities promote participation in physical activity to achieve good health and wellness. *Pre-req: PATHFIT1002, PATHFIT2022; Co-req: None*

PATHFIT4042 - Contemporary Dance
2 units

This course provides the students the foundations of contemporary dance technique and execution. It focuses on various movement concepts at each level, particularly designed solos, and the integration of organized improvisation to provide students, the opportunity to explore and come up with their own movement language. It encourages creativity by fusing elements of jazz, modern dance, lyrical dance, classical ballet, and other disciplines. *Pre-req: PATHFIT1002, PATHFIT2022; Co-req: None*

F. NATIONAL SERVICE TRAINING PROGRAM

NSTP1-18 - National Service Training Program 1
3 units

The National Service Training Program 1 is a curricular offering consisting of lectures and trainings on citizenship, values education, environment and drug education, disaster management, transformational leadership, dimensions of development and literacy and numeracy skills aimed to empower the youth as potential community leaders toward national development. *Pre-req: None; Co-req: None*

NSTP2-18 - National Service Training Program 2
3 units

The National Service Training Program 2 is a sequel to NSTP1. This course is designed to equip the students with the fundamentals of project identifications, planning implementation and evaluation which include but is not limited to lecture and training on social mobilization, community development, and community service. The students are required to undergo the process of community immersion in pursuit of applying the concepts learned in contributing to the general welfare of in the Colegio's partner communities. *Pre-req: NSTP1-18; Co-req: None*

A. BA COMMUNICATION PROFESSIONAL COURSES

BACOMM003 - Introduction to Communication Media
3 units

Overview of Communication as a discipline, as a field of study, and as a profession; the communication process and its elements, history, growth and development of communication media. *Pre-req: None; Co-req: None*

BACOMM013 - Communication Theory   3 units
Theories, principles and concepts in communication; issues and perspectives in the study of communication. *Pre-req: None; Co-req: None*

BACOMM023 - Communication Media Laws and Ethics   3 units
Principles underlying freedom of expression, information, and of the press; statutes, dealing with the communication media and their operations; case studies, issues and problems on regulatory and self-regulatory mechanisms including professional codes of ethics. *Pre-req: BACOMM003; Co-req: None*

BACOMM093 - Development Communication   3 units
Concepts, theories, principles and practices of communication in development contexts. Includes case studies of development communication programs locally and internationally. *Pre-req: BACOMM003, BACOMM143; None; Co-req: None*

BACOMM122 - Introduction to Theater Arts   2 units
Fundamentals of the art of drama onstage, with emphasis on acting, directing and production design. *Pre-req: BACOMM223; Co-req: BACOMM121L*

BACOMM121L - Introduction to Theater Arts Lab   1 unit
The laboratory component of BACOMM122 (Introduction to Theater Arts) where theatre production techniques are applied. A stage play is expected as an output. *Pre-req: BACOMM223; Co-req: BACOMM122*

BACOMM133 - Communication Research   3 units
The communication research process: principles, methods and techniques in the conceptualization, design, implementation, analysis, interpretation and utilization of communication studies. *Pre-req: BACOMM013; Co-req: None*

BACOMM143 - Communication Culture and Society   3 units
Existing and emerging global and national communication media landscape. The role of communication and culture in society with emphasis on the issues in the Philippine setting, including rights and responsibilities of communicators. *Pre-req: None; Co-req: None*

BACOMM153 - Journalism Principles and Practices   3 units
The scope and responsibilities of journalism work in a multimedia world, including an introduction to the basic skills required such as news writing, the interview and the feature writing. *Pre-req: BACOMM003, BACOMM013; Co-req: None*

BACOMM163 - Broadcasting Principles and Practices
3 units

Principles and practices in the use and operations of radio and television as broadcast media including basic skills in writing for broadcast. *Pre-req: BACOMM093; Co-req: None*

BACOMM183 -Advertising Principles and Practices
3 units

The role of advertising in a free market economy and commercial media system; theories on persuasion and advertising; and practical advertising principles and practices integrated in an advertising campaign plan. *Pre-req: BACOMM193; Co-req: None*

BACOMM193 - Public Relation Principles and Practices
3 units

Basic concepts, principles, and practices of public relations and its applications to education, government, business and industry and other institutions. *Pre-req: BACOMM023; Co-req: None*

BACOMM203 - Knowledge Management
3 units

Principles, processes, and strategies of identifying, capturing, analyzing, storing and sharing knowledge within an organization. These elements are facilitated by the use of ICT. *Pre-req: BACOMM283; Co-req: None*

BACOMM223 - Communication Planning
3 units

Principles and strategies on how to develop an evidenced-based and results- oriented communication campaign plan. It covers the planning process, elements of a communication plan, and measuring effects and impacts. The campaign may refer to public information and education, advocacy, social mobilization, and similar communication-related programs. *Pre-req: None; Co-req: None*

BACOMM233- Creative Writing
3 units

Poetry and fiction as a means of developing imaginative approaches to experience. *Pre-req: None; Co-req: None*

BACOMM243- Performance Media
3 units

The development of performance skills for various program genres on radio, television and other media channels. Includes integration of media and communication technologies in performing arts. *Pre-req: BACOMM163; Co-req: None*

BACOMM263 - Communication Management
3 units

Application of management theories, functions, principles, and strategies in communication organizations (including programs and projects). *Pre-req: BACOMM283; Co-req: None*

BACOMM283 - Organizational Culture and Communication
3 units

Communication processes in any type of organization to create a distinct organizational culture, achieve company's goals and objectives, and spur organizational productivity. Includes the relationship between communication and organizational effectiveness. *Pre-req: BACOMM003, BACOMM013; Co-req: None*

BACOMM403- Risk, Disaster, and Humanitarian Communication   3 units
The process of communicating effectively with vulnerable stakeholders prior to, during and after the onset of risk situations. It also seeks to familiarize students with communication strategies used in humanitarian aid operations, which contribute to the protection of people and property in times of disasters or emergencies. *Pre-req: BACOMM093; Co-req: None*

BACOMM413- Integrated Marketing Communication   3 units
This course is designed to give students a strong theoretical background in marketing, along with a practical understanding of how the elements in a marketing communications plan can help marketers achieve their objectives. *Pre-req: None; Co-req: None*

BACOMM423- Social Media and Mobile Technology for Communication Campaigns   3 units
This course is designed to acquaint the students with practical knowledge and analytical skills necessary to create, evaluate, and execute social media and mobile campaigns. It will also provide iconic and current case studies using social media and mobile technologies. *Pre-req: None; Co-req: None*

BACOMM433- Multimedia and Mobile Technology for Communication Campaigns   3 units
This course is focused on the use of multimedia and mobile technology to create effective communication campaigns. It covers various topics, including the use of audio, video, graphics, and other multimedia elements to create compelling content for communication campaigns. *Pre-req: BACOMM313; Co-req: None*

BACOMM-THA - Thesis 1   3 units
The course describes the skills, knowledge, and performance outcomes required to develop a research orientation among students and to acquaint them with fundamentals of research methods like quantitative, qualitative, or mixed methods research approaches that will lead in the production of a good, timely, and relevant research study. Students will have to work on problems, where communication theories will be applied or tested. It also encompasses the critical understanding on identifying and assessing ethics issues related to research, the awareness and benefits of research in the field of interest and its help in their future career, in the society or community, and in the local and global environment. *Pre-req: BACOMM133; Co-req: None*

BACOMM-THB - Thesis 2   3 units
The course is the second phase of the Communication Thesis, which includes the completion of the final defense. *Pre-req: BACOMM-THA; Co-req: None*

BACOMM-PRC6 - Communication Internship (600hrs)   6 units
The practicum workload is intended to help undergraduates apply their formal education in a real work environment. Close contact with a workplace supervisor/mentor is needed. Attendance and participation is also a required at the practicum classes/seminars held at the start and finish of the successful practicum. *Pre-req: BACOMM263, BACOMM-THB; Co-req: None*

B. ELECTIVE COURSES

BAELEC-2 - Philippine Arts
3 units

This subject creates student's appreciation for visual arts in the Philippines, from indigenous to contemporary visual arts. Students will learn how culture dictates architecture, paintings and performance arts. Students will be introduced to the works of well-respected Filipino artists in different medium of expressions.
Pre-req: None; Co-req: None

BAELEC-3 - Digital Imaging
2 units

Principles, programs, and techniques in improving photos, managing colors and typography, as well as creating new images and designs for print, web and digital publications. *Pre-req: None; Co-req: BAELEC-3L, BAELEC-5, BAELEC-5L*

BAELEC-3L - Digital Imaging Lab
1 unit

This laboratory course is designed to provide hands-on experience in digital imaging techniques and technologies. Students will learn the practical skills necessary for image acquisition, manipulation, and distribution using industry-standard software and hardware. The course will cover topics such as image resolution, color management, image enhancement, and image compression. Students will also learn how to use digital imaging tools to create and edit images for a variety of applications, including graphic design, photography, and multimedia projects. *Pre-req: None; Co-req: BAELEC-3, BAELEC-5, BAELEC-5L*

BAELEC-5 - Basic Photography
2 units

This subject introduces Photography to students as a medium of communication. Students will learn basic photographic composition, camera functions and photo editing. *Pre-req: None; Co-req: BAELEC-5L, BAELEC-3, BAELEC-3L*

BAELEC-5L - Basic Photography Lab
1 unit

The laboratory component of ABElec-5 (Basic Photography) where photography techniques are applied. *Pre-req: None; Co-req: BAELEC-5, BAELEC-3, BAELEC-3L*

BAELEC-6 - Web Content Management
3 units

Principles and practices in developing and managing online content for institutional visibility and impact beyond interface and navigation design. *Pre-req: BACOMM263; Co-req: None*

BAELEC-7 - Film Production
2 units

This subject lets the students experience making their own film. Student will be part of a fully working film production. Students are expected to be part of committees in a film production. They will also experience on location shoots. *Pre-req BAELEC-5, BAELEC-5L; Co-req: BAELEC-7L*

BAELEC-7L - Film Production Lab
1 unit

The laboratory component of ABElec-7 (Film Production) where students are required to produce a film as their final requirement. *Pre-req: BAELEC-5, BAELEC-5L Co-req: BAELEC-7*

PROGRAM DESCRIPTION

Bachelor of Science in Psychology (BS Psych) is a four-year program designed to prepare students for general careers in the industrial, clinical and educational settings. This degree enables the student to analyze human behavior through the lens of different psychological concepts and theories. Its fundamental courses in general psychology and statistics lay the foundation for gaining the knowledge and skills necessary for psychological assessment and scientific research. It can also be a springboard for further studies in Human Resource, Law, Guidance and Counseling, and Medicine. Graduates of this program may work as licensed psychometricians in the academe, industrial companies, and clinical institutions.

Program Educational Objectives

The Bachelor of Science in Psychology (BS Psych) program intends to achieve the following educational objectives for the graduates three to five years after graduation from the program:
1. Practice the professional and ethical conduct of Psychology in the Filipino and International context;
2. Apply theoretical and professional knowledge, skills, and Christian values in psychological assessment and interventions;
3. Communicate the results of psychological assessment and interventions to both specialist and non-specialist audiences;
4. Demonstrate a higher level of analytical, critical thinking, and research skills specific to the discipline of Psychology; and
5. Undertake further training for the continuous development of existing skills and acquire higher level of competencies through formal graduate education and employment.

Program Outcomes and Performance Indicators

Upon completion of Bachelor of Science in Psychology (BS Psych), the graduate, who is trained in a culture of conscience and excellence with Filipino, Dominican, and Christian in orientation, must be able to:

Program Outcomes	Performance Indicators
1. Articulate and discuss the latest developments in the specific field of practice	• Engage in continual learning in one's specialization
2. Effectively communicate orally and in writing using English, Filipino, mother tongue language, and an appropriate Foreign Language required by the industry	• Express oneself clearly in verbal or written forms the updates in one's career or vocation • Convey positive Filipino values in one's decisions and actions • Defend satisfactorily his/her thesis from a panel of experts

3. Work effectively and independently in multi-disciplinary and multi-cultural teams	• Perform well as a team leader or member in any kind of group project or activity • Perform independently and cooperatively to accomplish worthwhile goals
4. Preserve and promote Filipino historical and cultural heritage (based on RA No. 7722)	• Demonstrate responsible Filipino citizenship in local, national or international communities
5. Participate in various types of employment, development activities, and public discourses, particularly in response to the needs of the communities one serves	• Plan and take action for the welfare of the community • Continually engage oneself in development projects and activities that address the community needs
6. Manifest strong commitment and conviction to the Christian and Dominican teachings and philosophy in thoughts, words, and deeds	• Observe the Dominican values of study, prayer, community, and service • Uphold ecological consciousness and engage in environmental stewardship • Participate actively in the community's spiritual and social advocacy or extension program
7. Apply social science concepts and theories to the analysis of social issues	• Get involved in community immersion to investigate a social issue that may contribute to its solution

8. Design and execute social science research using appropriate approaches and methods	• Undertake researches regarding a social issue in a community, institution or workplace utilizing social concepts and theories leading to a solution to the issue
9. Practice professional and ethical standards in the fields of social sciences and communication	• Adhere to appropriate professionalism and ethical standards regarding respect, honesty, impartiality and willingness to accept each own weakness. • Immerse in an actual working environment in industry
10. Demonstrate the capability to discuss and analyze the major theories and concepts in psychology (knowledge in psychology)	• Pass licensure examination for Psychometrician • Understand and identify major psychological concepts and theories, principles, concepts, and skills in psychology theories • Develop arguments about and critically evaluate the established principles in psychology • Comprehend and evaluate new information related to psychology (e.g. theory, concepts, data) that may be presented in various forms and from various sources

11. Demonstrate and apply the methods of psychological inquiry in building knowledge on local culture and context (psychological research)	• Produce good psychological research • Demonstrate methods of inquiry in psychology • Critically evaluate the appropriateness of different approaches to problem solving in the field • Apply inquiry methods in making judgments and solve problems in an applied or an employment context
12. Demonstrate and apply psychological theories and methods in personal and professional setting (application of psychology).	• Correctly apply the theories, principles, concepts, and skills in psychology in an employment context • Undertake research using the knowledge and skills in psychology • Communicate results of research to both specialist and non-specialist audiences
13. Demonstrate capability for self-reflection and independent learning in graduate education or in a professional context (independent learning)	• Acceptance to graduate programs in Psychology and allied fields • Employability in psychology-related profession • Demonstrate the capability capable of handling basic job requirements in the field of teaching, research, human resource management, basic psychometrics, training and development, among others, and in further developing relevant knowledge in skills

14. Demonstrate professional and ethical behaviors in research and practice in psychology (ethics)	• Demonstrate appropriate behavior required in the psychology profession • Observe ethical rules concerning conduct of research and projects • Immerse in an actual working environment in industry
15. Demonstrate harmonious interpersonal relationship with colleagues, clients and others (interpersonal skills) in diverse cultural setting.	• Establishes, maintains, and develop working relationships with professional colleagues • Establishes, maintains, and develops appropriate working relationships with clients and others • Displays sensitivity to cross cultural differences
16. Demonstrate the ability to conduct psychological assessments and evaluation (psychological assessment).	• Assesses or evaluates individuals, groups, organizations, or situations • Understands assessment or evaluation needs • Selects, designs, or develops appropriate assessments or evaluations • Conduct assessments or evaluations, including administration, scoring, interpretation, feedback, and application of results

BACHELOR OF SCIENCE IN PSYCHOLOGY
GENERAL SUMMARY OF COURSES

I. General Education Courses

A. Core Courses   24
GEC003	Understanding the Self	3
GEC013	Science, Technology, and Society	3
GEC023	Mga Babasahin Hinggil sa Kasaysayan ng Pilipinas	3
GEC033	Mathematics in the Modern World	3
GEC043	The Contemporary World	3
GEC053	Art Appreciation	3
GEC063	Purposive Communication	3
GEC073	Ethics	3

B. CHED Mandated Courses   26
a. Rizal Course
RZL023	Buhay at Mga Akda ni Rizal	3

b. Physical Education Courses
PATHFIT1002	Movement Competency Training	2
PATHFIT2022	Exercise Based Fitness Activities	2
PATHFIT3032	Individual/Dual Sports	2
PATHFIT4042	Contemporary Dance	2

c. National Service Training Program
NSTP1-18	National Service Training Program 1	3
NSTP2-18	National Service Training Program 2	3

d. GENED Elective Courses
GECELEC1	Living in the IT Era	3
GECELEC2	The Entrepreneurial Mind	3
GECELEC3	Philippine Pop Culture	3

C. Institutional Mandated Courses   18
a. Religious Education Courses
RELED053	The Catholic Christian Faith	3
RELED063	Contemporary Issues in Christian Marriage	3
RELED073	Contemporary Issues About Church and Human Society with Immersion	3

| RELED083 | Christian Ethics | 3 |

b. Letran Quality Enrichment Courses

| LQEC23-013 | Letran Quality Enhancement Course I (Letran Calamba Identity and 21st Century Learning Skills) | 3 |
| LQEC23-023 | Letran Quality Enhancement Course II (21st Century Literacy Skills & Life Skills and Sustainability) | 3 |

II. Professional Education Courses

A. Basic Courses   8

Psych003	Introduction to Psychology	3
Psych033	Psychological Statistics	3
Psych032L	Psychological Statistics Lab	2

B. CHED Required Courses   45

Psych023	Developmental Psychology	3
Psych063	Cognitive Psychology	3
Psych043	Theories of Personality	3
Psych083	Experimental Psychology	3
Psych082L	Experimental Psychology Lab	2
Psych093	Abnormal Psychology	3
Psych103	Social Psychology	3
Psych113	Industrial/Organizational Psychology	3
Psych123	Sikolohiyang Pilipino	3
Psych133	Physiological/Biological Psychology	3
Psych173	Field Methods in Psychology	3
Psych172L	Field Methods in Psychology Lab	2
Psych263	Psychological Assessment	3
Psych262L	Psychological Assessment Lab	2
Psych-RESA	Research in Psychology I	3
Psych-RESB	Research in Psychology II	3

C. Electives Courses (Psychology Elective Series (I-V)   26

Psych183	Gender and Sexuality Perception	3
Psych143	Group Dynamics	3
Psych193	Introduction to Counseling	3
Psych203	Disaster and Mental Health	3
Psych213	Psychology for Exceptional Children	3
PSYCH-PRC	Practicum in Psychology (500hrs)	5
PSYCH-ST006	Special Topics in Psychology	6

D. Natural Science Electives   21

CHEM022L	College Chemistry Lab	2
CHEM023	College Chemistry	3
PHYS022L	College Physics Lab	2
PHYS023	College Physics	3
NSCI092L	College Zoology Lab	2
NSCI093	College Zoology	3
NSCI033	Environmental Science and Sustainability	3
NSCI063	Neuro-Anatomy	3

TOTAL UNITS   168

BACHELOR OF SCIENCE IN PSYCHOLOGY
Curriculum Year 2023-2024

COURSE CODE	COURSE TITLE	Lec Units/Hrs	Lab Units	Lab Hrs	TOTAL	PRE-REQUISITES/ CO REQUISITES
FIRST YEAR, First Semester						
GEC003	Understanding the Self	3			3	
GEC013	Science, Technology and Society	3			3	
GEC043	The Contemporary World	3			3	
LQEC23-013	Letran Quality Enhancement Course I (Letran Calamba Identity and 21st Century Learning Skills)	3			3	
NSTP1-18	National Service Training Program 1	3			3	
PATHFIT1002	Movement Competency Training	2			2	
PSYCH003	Introduction to Psychology	3			3	
PSYCH183	Gender and Sexuality Perception	3			3	
RELED053	The Catholic Christian Faith	3			3	
	Total	26	0	0	26	
FIRST YEAR, Second Semester						
CHEM022L	College Chemistry Lab		2	6	2	co-req Chem023
CHEM023	College Chemistry	3			3	co-req Chem022L
LQEC23-023	Letran Quality Enhancement Course II (21st Century Literacy Skills & Life Skills and Sustainability)	3			3	LQEC23-013
NSTP2-18	National Service Training Program 2	3			3	NSTP1-18
PATHFIT2022	Exercise-Based Fitness	2			2	PATHFIT1002
PSYCH032L	Psychological Statistics Lab		2	6	2	Psych003 co-req PSYCH033
PSYCH033	Psychological Statistics	3			3	Psych003 co-req PSYCH032L
PSYCH043	Theories of Personality	3			3	PSYCH003
PSYCH063	Cognitive Psychology	3			3	PSYCH003
	Total	20	4	12	24	
SECOND YEAR, First Semester						
GEC023	Mga Babasahin Hinggil sa Kasaysayan ng Pilipinas	3			3	
GECELEC2	The Entrepreneurial Mind	3			3	
NSCI092L	College Zoology Lab		2	6	2	CHEM023, CHEM022L, co-req: NSCI093
NSCI093	College Zoology	3			3	CHEM023, CHEM022L, co-req: NSCI092L
PATHFIT3032	Individual/Dual Sports	2			2	PATHFIT1002, PATHFIT2022
PSYCH023	Developmental Psychology	3			3	PSYCH043, PSYCH063
PSYCH082L	Experimental Psychology Lab		2	6	2	PSYCH043; PSYCH033, PSYCH032L co-req: PSYCH083
PSYCH083	Experimental Psychology	3			3	PSYCH043; PSYCH033, PSYCH032L co-req: PSYCH082L
PSYCH123	Sikolohiyang Pilipino	3			3	PSYCH043, PSYCH063
RELED083	Christian Ethics	3			3	RELED053
	Total	23	4	12	27	

BACHELOR OF SCIENCE IN PSYCHOLOGY
Curriculum Year 2023-2024

COURSE CODE	COURSE TITLE	Lec Units/Hrs	Lab Units	Lab Hrs	TOTAL	PRE-REQUISITES/ CO REQUISITES
SECOND YEAR, Second Semester						
GEC063	Purposive Communication	3			3	
PATHFIT4042	Contemporary Dance	2			2	PATHFIT1002, PATHFIT2022
PSYCH093	Abnormal Psychology	3			3	PSYCH023
PSYCH103	Social Psychology	3			3	PSYCH123
PSYCH113	Industrial/Organizational Psychology	3			3	PSYCH023
PSYCH133	Physiological/Biological Psychology	3			3	PSYCH023
PSYCH262L	Psychological Assessment Lab		2	6	2	PSYCH083, PSYCH082L, PSYCH043 co-req: PSYCH263
PSYCH263	Psychological Assessment	3			3	PSYCH083, PSYCH082L, PSYCH043 co-req: PSYCH262L
RELED063	Contemporary Issues in Christian Marriage	3			3	RELED053
	Total	23	2	6	25	
THIRD YEAR, First Semester						
GEC033	Mathematics in the Modern World	3			3	
GEC053	Art Appreciation	3			3	
GEC073	Ethics	3			3	
GECELEC3	Philippine Popular Culture	3			3	
PHYS022L	College Physics Lab		2	6	2	NSCI093, NSCI092L, co-req PHYS023
PHYS023	College Physics	3			3	NSCI093, NSCI092L, co-req PHYS022L
PSYCH172L	Field Methods in Psychology Lab		2	6	2	PSYCH263, PSYCH262L, co-req PSYCH173
PSYCH173	Field Methods in Psychology	3			3	PSYCH263, PSYCH262L, co-req PSYCH172L
RELED073	Contemporary Issues About Church and Human Society with Immersion	3			3	RELED053
RZL023	Buhay at Gawa ni Rizal	3			3	
	Total	24	4	12	28	
THIRD YEAR, Second Semester						
GECELEC1	Living in the IT Era	3			3	
NSCI033	Environmental Science and Sustainability	3			3	PHYS023, PHYS022L
NSCI063	Neuro-Anatomy	3			3	NSCI093, NSCI092L
PSYCH143	Group Dynamics	3			3	PSYCH113, PSYCH103
PSYCH193	Introduction to Counseling	3			3	PSYCH093
PSYCH-RESA	Research in Psychology I	3			3	PSYCH082L, PSYCH083, PSYCH172L, PSYCH173
	Total	18	0	0	18	

BACHELOR OF SCIENCE IN PSYCHOLOGY
Curriculum Year 2023-2024

COURSE CODE	COURSE TITLE	Lec Units/Hrs	Lab Units	Lab Hrs	TOTAL	PRE-REQUISITES/ CO REQUISITES
FOURTH YEAR, First Semester						
PSYCH203	Disaster and Mental Health	3			3	PSYCH093, PSYCH193
PSYCH213	Psychology for Exceptional Children	3			3	PSYCH093
PSYCH-RESB	Research in Psychology II	3			3	PSYCH-RESA, co-req PSYCH-ST006
PSYCH-ST006	Special Topics in Psychology	6			6	co-req PSYCH-RESB
	Total	15	0	0	15	
FOURTH YEAR, Second Semester						
PSYCH-PRC	*Practicum in Psychology (500hrs)	5			5	PSYCH173, PSYCH172L, PSYCH193, PSYCH113, PSYCH213
	Total	5	0	0	5	
	GRAND TOTAL	155	14	42	168	

Practicum - No simultaneous enrollment is allowed.

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COURSE DESCRIPTION

I. GENERAL EDUCATION COURSES

A. CORE COURSES

GEC003 - Understanding the Self   **3 units**
The course discusses the nature of identity, its factors and forces that affect the development and maintenance of personal identity. It is intended to facilitate the exploration of the issues and concerns regarding self and identity to arrive at a better understanding of one's self. It strives to meet this goal by stressing the integration of the personal with the academic — contextualizing matters discussed in the classroom and in the everyday experiences of students — making for better learning, generating a new appreciation for the learning process, and developing a more critical and reflective attitude while enabling them to manage and improve their selves to attain a better quality of life.

This also includes mandatory topics on Family Planning and Population Education. *Pre-req: None; Co-req: None*

GEC013 - Science, Technology, and Society   **3 units**
The course deals with interactions between science and technology and social cultural, political, and economic contexts, which shape and are shaped by them.

The interdisciplinary course engages students to confront the realities brought about by science and technology in society. Such realities pervade the personal, the public, and the global aspects of our living and are integral to human development. Scientific knowledge and technological development happen in the context of society with all its socio-political, cultural, economic, and philosophical underpinnings at play. This course seeks to instill reflective knowledge in the students that they are able to live the good life and display ethical decision making in the face of scientific and technological advancement.

This also includes discussion of climate change and environmental awareness as well as the implementation of the different environmental protection laws. *Pre-req: None; Co-req: None*

GEC023 - Mga Babasahin Hinggil sa Kasaysayan ng Pilipinas   **3 units**
Ang kursong ito ay tumatalakay sa mga piling primaryang sanggunian ukol sa iba't ibang yugto ng kasaysayan ng Pilipinas, pagsusuri at interpretasyon. Isasama din ang pagtalakay sa konstitusyon ng Pilipinas simula sa taong 1899 hanggang sa taong 1987. Ganun din ang pagtalakay sa repormang agraryo. Gayundin ang pagtalakay sa pagbubuwis bilang instrumento ng pamahalaan. Ito ay may kaugnayan sa tibay ng pagbubuwis bilang isa sa tatlong kapangyarihan ng pamahalaan na nakasaad sa Saligang Batas taong 1987. *Pre-req: None; Co-req: None*

GEC033 - Mathematics in the Modern World   **3 units**
The course discusses the nature of Mathematics, appreciation of its practical, intellectual, and aesthetic dimensions, and application of mathematical tools in daily life. *Pre-req: None; Co-req: None*

B. GENERAL EDUCATION ELECTIVE COURSES

GECELEC1 - Living in the IT Era   3 units
This general education elective course discusses how information technology shaped that way of life in the modern era. It discusses the science, culture and ethics information technology as well as how it affects contemporary life and interpersonal interactions and the way it may be used to promote one's social, professional, and personal goals. *Pre-req: None; Co-req: None*

GECELEC2 - The Entrepreneurial Mind   3 units
This general education elective course focuses on the nature and fundamentals of entrepreneurship as well as its societal responsibilities and repercussions. It is designed to assist students comprehend the business environment and encourage individuals adopt and innovative mindset. *Pre-req: None; Co-req: None*

GECELEC3 - Philippine Popular Culture   3 units
This general education elective course focuses on the emerging potential and expectation of mass audiences, markets and mass media, as well as their social, economic, and political settings, in the field of art, music, and literature. By the completion of the course, students should be able to demonstrate their appreciation of traditional and modern cultural expressions of as well as identify, analyze and develop trends in Philippine culture that have been inspired by various internal and external influences. *Pre-req: None; Co-req: None*

C. CHED MANDATORY COURSES

RZL023 - Buhay at Mga Akda ni Rizal   3 units
Ito'y isang pag-aaral sa buhay at gawa ni Gat. Jose Rizal at ang kaugnayan at kahalagahan sa nilalaman ng pangkasaysayang pagsulong ng lipunang Pilipino. Gamit ang istratehiyang 'Dambana" kung saan ang mag-aaral ay maglalaan ng panahon sa Bahay-Rizal sa Calamba, ang mag-aaral ay magiging kabahagi ng Rizal Shrine staff sa edukasyong pangkasaysayan ng mga panauhin sa Bahay-Rizal. *Pre-req: None; Co-req: None*

D. INSTITUTIONAL MANDATED COURSES

LQEC23-013 - Letran Quality Enrichment Course I (Letran Calamba Identity and 21st Century Learning Skills)   3 units
LQEC 1 is an enhancement course that is designed to introduce the identity of Colegio de San Juan de Letran Calamba including its history, Dominican spirituality, mission, vision, quality objectives, policies , processes and services. It also introduces the "Four Cs" of 21st Century Learning: Critical Thinking, Creativity, Collaboration and Communication that aims to enhance students' knowledge and awareness of the essential communication concepts and establish deep comprehension of the processes in a creative manner.
Furthermore, it helps the learners to formulate logical and well-thought-out reasoned judgments and promote active engagement with others to achieve a common goal. *Pre-req: None; Co-req: None*

LQEC23-023 - Letran Quality Enrichment Course II (21st Century Literacy Skills & Life Skills and Sustainability) 3 units

LQEC 2 is an enhancement course that is designed to provide basic understanding about leadership, flexibility, initiative, social skills and productivity. It also introduces digital literacy which focuses on fundamental understanding of media, technology, and information as tools for communication and the advancement of people and communities.

Moreover, the course also introduces the concept of Environment, Social, and Governance (ESG) which determines an organization's commitment to sustainability. All of these are necessary to help the learners become competitively employable in the future of work. *Pre-req: LQEC23-013; Co-req: None*

RELED053 - The Catholic Christian Faith 3 units

This course deals with the basic Catholic Christian Doctrine. It highlights the 12 articles of faith in the Apostles Creed, as well as the Sacred Scripture. Thus it guides the students to a life of truth, fidelity and worship to God. *Pre-req: None; Co-req: None*

RELED063 - Contemporary Issues in Christian Marriage 3 units

Contemporary Issues in Christian Marriage is a three unit academic subject. The emphasis of the course is on Marriage and Family presented as a vocation and a sacrament. The study prepares the students for the reception of the sacrament and achievement of a better outlook on the realities and complexities of the married state and family life. *Pre-req: RELED053; Co-req: None*

RELED073 - Contemporary Issues About Church and Human Society with Immersion 3 units

Contemporary Issues About Church and Human Society with Immersion is a three unit academic subject. This course studies the seven themes of the social teachings of the Catholic Church. It also tackles contemporary social issues which hamper the development of our country. An integral part of the course is Makipamuhay, a learning strategy that allows students to experience direct contact with the oppressed in society specifically the rural poor and leads them to develop personal as well as communal witnessing to authentic Christian faith. *Pre-req: RELED053; Co-req: None*

RELED083 - Christian Ethics 3 units

This course presents the foundations and fundamentals of Christian Ethics and their application to issues and concerns related to the Ten Commandments. *Pre-req: RELED053; Co-req: None*

E. PHYSICAL EDUCATION COURSES

PATHFIT1002 - Movement Competency Training 2 units

This course provides training in different movement and core engagement in conjunction with principles of healthy and physical active life. Students will be able to adopt and transfer the movement competency in different contexts. *Pre-req: None; Co-req: None*

PATHFIT2022 - Exercise-Based Fitness 2 units

This course provides experiences in core stability, strength, and mobility training. It includes goal setting exercise progression and regression and periodic assessment for the development of various fitness component. *Pre-req: PATHFIT1002; Co-req: None*

PATHFIT3032 - Individual/Dual Sports   **2 units**
This course puts emphasis on gaining basic knowledge of individual/dual sports, fitness and lifetime activities. It also includes different kinds of individual/dual sports. Students will learn the skills and game strategies for each sport as well as their historical background and terminology. Activities promote participation in physical activity to achieve good health and wellness. *Pre-req: PATHFIT1002, PATHFIT2022; Co-req: None*

PATHFIT4042 - Contemporary Dance   **2 units**
This course provides the students the foundations of contemporary dance technique and execution. It focuses on various movement concepts at each level, particularly designed solos, and the integration of organized improvisation to provide students, the opportunity to explore and come up with their own movement language. It encourages creativity by fusing elements of jazz, modern dance, lyrical dance, classical ballet, and other disciplines. *Pre-req: PATHFIT1002, PATHFIT2022; Co-req: None*

F. NATIONAL SERVICE TRAINING PROGRAM

NSTP1-18 - National Service Training Program 1   **3 units**
The National Service Training Program 1 is a curricular offering consisting of lectures and trainings on citizenship, values education, environment and drug education, disaster management, transformational leadership, dimensions of development and literacy and numeracy skills aimed to empower the youth as potential community leaders toward national development. *Pre-req: None; Co-req: None*

NSTP2-18 - National Service Training Program 2   **3 units**
The National Service Training Program 2 is a sequel to NSTP1. This course is designed to equip the students with the fundamentals of project identifications, planning implementation and evaluation which include but is not limited to lecture and training on social mobilization, community development, and community service. The students are required to undergo the process of community immersion in pursuit of applying the concepts learned in contributing to the general welfare of in the Colegio's partner communities. *Pre-req: NSTP1-18; Co-req: None*

II. PROFESSIONAL COURSES

A. NATURAL SCIENCES

CHEM023 - College Chemistry   **3 units**
This course introduces the students to the basic principles in chemistry, and the application of these principles to man and society. The course covers the topics on atomic structure and chemical bond formation, the details of orbital description, oxidation-reductions, the gas laws, the chemical reactions, and basic introduction of simple organic compounds. *Pre-req: None; Co-req: Chem022L*

CHEM022L - College Chemistry Lab   **2 units**
This laboratory course accompanies CHEM023 (College Chemistry). This course will provide the students practical insights of the concepts learned from their lecture through laboratory experiments and laboratory exercises. *Pre-req: None; Co-req: Chem023*

NSCI093 - College Zoology
3 units

The course introduces the students into the realm of animal world. It embraces the classification of animals, the general principles of animal biology, and the fundamentals of Microscopy and Dissection. *Pre-req: CHEM023, CHEM022L; Co-req: NSCI092L*

NSCI092L - College Zoology Lab
2 units

This laboratory course accompanies NSCI093 (College Zoology). This course will provide the students practical insights of the concepts learned from their lecture through laboratory experiments and laboratory exercises. *Pre-req: CHEM023, CHEM022L; Co-req: NSCI093*

NSCI033 - Environmental Science and Sustainability
3 units

The course offers the foundation for students to become aware of the current issues about pollution and destruction of Planet Earth. It focuses on the ecosystem structure, ecosystem destruction and causes of pollution. It emphasizes species biodiversity and extinction and management approaches to protect the aquatic and terrestrial environment. The theories learned will be used to develop a sustainable management plan to the 2 ecosystems mentioned. *Pre-req: PHYS023, PHYS022L; Co-req: None*

NSCI063 - Neuro-Anatomy
3 units

This course provides the students with a basic understanding of the structure and morphological function of the mammalian nervous system (nervous tissue, central nervous system, peripheral nervous system and autonomic nervous system) and show usefulness in dealing with psychological problems. The anatomy of the special sense organs (sight, hearing, smell and taste) and human genetics are also discussed. *Pre-req: NSCI093, NSCI092L; Co-req: None*

PHYS023 - College Physics
3 units

This course covers the topics on mechanics, molecular physics and heat. It embraces the study of vectors; force and motion; work, power and energy; momentum; uniform circular motion, vibratory motion; fluids at rest and in motion; properties of gases, molecular theory of matter, heat quantities and heat transfer; thermal expansion, and thermodynamics principles. *Pre-req: NSCI093, NSCI092L; Co-req: PHYS022L*

PHYS022L - Physics Lab
2 units

This laboratory course accompanies PHYS023 (College Physics). This course will provide the students practical insights of the concepts learned from their lecture through laboratory experiments and laboratory exercises. *Pre-req: NSCI093, NSCI092L; Co-req: PHYS023*

B. PSYCHOLOGY PROFESSIONAL COURSES

PSYCH003 - Introduction to Psychology
3 units

A broad coverage of the conceptual and empirical foundations of psychology in its main fields. The discussion of the theories, concepts, and empirical findings focuses on complex human behavior - how and why we think, feel and behave the way we do, how we act and interact with others, and why and how we become the unique individuals that we are. *Pre-req: None; Co-req: None*

PSYCH023 - Developmental Psychology   3 units

A study of human development throughout the life span in the areas of physical, social, cognitive, emotional, and moral development. Major developmental theories are tackled. Emphasis is given on the system perspective and the interactive dimensions of human development particularly in the Filipino setting. *Pre-req: PSYCH043, PSYCH063; Co-req: None*

PSYCH033 - Psychological Statistics   3 units

This focuses on the collection and presentation measures of variation, location; probability distribution; statistical inference; central limit theorem; types of errors; t-test; non-parametric statistics; chi-square; sign test; Spearman's correlation coefficient and analysis of variance. *Pre-req: PSYCH003; Co-req: PSYCH032L*

PSYCH032L - Psychological Statistics Lab   2 units

Basic concepts and methods of descriptive and inferential statistics and their use in the design, analysis, and interpretation of psychological studies. *Pre-req: PSYCH003; Co-req: PSYCH033*

PSYCH043 - Theories of Personality   3 units

A survey of the major theories of personality and the theoretical and practical issues involved in the scientific study and understanding of personality formation and dynamics. *Pre-req: PSYCH003; Co-req: None*

PSYCH063 - Cognitive Psychology   3 units

An introduction to research and knowledge in the psychological study of important cognitive abilities including sensation and perception, attention, memory and representation, language and thinking. *Pre-req: PSYCH003; Co-req: None*

PSYCH083 - Experimental Psychology   3 units

The philosophy and methods of science focusing particularly on experimentation in the investigation of problems and issues in psychology including ethical considerations in the conduct of experimental research. *Pre-req: PSYCH043; PSYCH033, PSYCH032L; Co-req: PSYCH082L*

PSYCH082L - Experimental Psychology Lab   2 units

The student is expected to design and conducts experiments in psychology, write research reports, and present and defend the findings of the experiment. *Pre-req: PSYCH043; PSYCH033, PSYCH032L; Co-req: PSYCH083*

PSYCH093 - Abnormal Psychology   3 units

An introduction to the nature, causes, and possible interventions of psychological disorders. The students are expected to be familiar with the nomenclature and classifications of mental disorders, by the end of the course. Indigenous concepts of abnormality and abnormal behaviour will also be discussed. Ethical considerations in abnormal psychology/clinical psychology are discussed. *Pre-req: PSYCH023; Co-req: None*

PSYCH103 - Social Psychology   3 units
The scientific study of human social behaviour - how and why we think, feel, behave, and relate to one another in social situations the way we do. The major theories, concepts, and empirical findings in social psychology are dealt with. Social behaviour and social phenomena in the Philippine setting are examined from the social psychological perspective. *Pre-req: PSYCH123; Co-req: None*

PSYCH113 - Industrial/Organizational Psychology   3 units
A course providing an overview of psychological concepts, theories and research findings for effective human interactions and performance in the workplace. Topics include organizational structures and systems, organizational communication process, leadership, motivation, conflict, resolution, problem solving and decision making, team dynamics, efforts in human resource development and management, and organizational change and development. *Pre-req: PSYCH023; Co-req: None*

PSYCH123 - Sikolohiyang Pilipino   3 units
The course is a study of concepts and methods in the field of culture and psychology, giving meaning to psychological reality based on the language and worldview of the Filipino. The students will be introduced to indigenous concepts in Sikolohiyang Pilipino as a discipline and as a movement will also be discussed. The course will be conducted in Filipino. *Pre-req: PSYCH043, PSYCH063; Co-req: None*

PSYCH133 - Physiological/Biological Psychology   3 units
The physiological approach to studying human behaviour. Basic concepts and findings in neuroscience with special emphasis on brain-body relationship, brain-behaviour relationship, and mind-behaviour relationship are treated in the course. *Pre-req: PSYCH023; Co-req: None*

PSYCH143 - Group Dynamics   3 units
Using experiential/inductive methods, the course provides students the opportunity to understand the dynamics of group processes and functioning such as communication, problem-solving, decision-making, leadership/membership, collaboration/competition, and self-awareness, particularly in a Philippine organizational setting. *Pre-req: PSYCH113, PSYCH103; Co-req: None*

PSYCH173 - Field Methods in Psychology   3 units
This course covers both quantitative and qualitative field methods. It includes the design and administration of surveys, interviews, and focus group discussion. Learners will also be oriented on the use of secondary data and observations. *Pre-req: PSYCH263, PSYCH262L; Co-req: PSYCH172L*

PSYCH172L - Field Methods in Psychology Lab   2 units
In this course the student is expected to design and administer surveys, interviews, and focus group discussion using the secondary data and observations. *Pre-req: PSYCH263, PSYCH262L; Co-req: PSYCH173*

PSYCH183 - Gender and Sexuality Perception   3 units
Concepts, principles, and approaches in the understanding of genders in the Philippine towards an effective gender responsive society. It equips the students with a broader perspective on their gender roles as they discern stereotypes and discriminations as dictated by the society. It prepares students to be more gender

sensitive in words and in actions as they build a new society filled with gender responsive individuals.
Pre-req: None; Co-req: None

PSYCH193 – Introduction to Counseling   3 units
This course aims to provide students with a basic understanding the nature, scope and skills used in counseling and other psychological interventions. This course also discusses the roles, functions, and ethical considerations involved in implementing psychological intervention. Emphasis is on various cognitive, affective, and behavioral approaches in counseling.*Pre-req: PSYCH093; Co-req: None*

PSYCH203 - Disaster and Mental Health   3 units
This course provides an overview of the impact of disasters on individuals, families, and communities. Learners will be introduced to disaster preparedness and how it can be facilitated. The course seeks to provide learners an understanding of the impact of disasters on mental health and the principles I providing psychological support for survivors. *Pre-req: PSYCH093, PSYCH193; Co-req: None*

PSYCH213 - Psychology for Exceptional Children   3 units
A course designed to understand children who are set apart from others due to either an advantage or a disadvantage in terms of their physical, metal, and emotional conditions. Discussions of etiological factors, characteristics of each of the conditions, assessment procedures and intervention approaches are included in the student's exploration of human exceptionality. Orientation on the rights and privileges of Filipinos with special needs shall also be discussed as embodied in the Persons with Disabilities Act of the Philippines (RA 9442) *Pre-req: PSYCH093; Co-req: None*

PSYCH263 - Psychological Assessment   3 units
Orientation in the rudiments of psychological testing. The principles, methods and uses of psychological testing are tackled. Emphasis is placed on issues of item analysis, reliability, and validity in test construction. The administration, scoring, and interpretation of objective cognitive and affective tests used in various applied fields of psychology, particularly the educational, industrial, and government settings are covered. Ethical considerations as well as current trends and issues in psychological testing in the Philippine setting are discussed. *Pre-req: PSYCH083, PSYCH082L, PSYCH043; Co-req: PSYCH262L*

PSYCH262L - Psychological Assessment Lab   2 units
This course will provide the students practical insights of the concepts learned from the lecture through laboratory experiments and exercises using different psychological tests, theories and concepts. *Pre-req: PSYCH083, PSYCH082L, PSYCH043; Co-req: PSYCH263*

PSYCH-RESA - Research in Psychology I   3 units

A research methods course which aims to train the student in psychological research beginning from choosing a relevant problem-topic, reviewing the literature, postulating a conceptual framework, to planning for methodology and data analysis. The output is a mature research proposal. *Pre-req: PSYCH082L, PSYCH083, PSYCH172L, PSYCH173; Co-req: None*

PSYCH-RESB - Research in Psychology II   3 units

The second part is the implementation of the research proposal. The student is expected to come up with a well-written empirical research paper and is expected to defend the results, the discussion, and the conclusions. *Pre-req: PSYCH-RESA; Co-req: PSYCH-ST006*

PSYCH-PRC - Practicum in Psychology (500hrs)   5 units

A course that will expose the students to the different settings where psychology is practiced as a profession, e.g. school setting, industrial setting, government, non-governmental organizations, hospitals. Students are required to complete a total of 500 hours of practicum (250 hours of exposure in the clinical setting, and 250 hours in either the educational setting or industrial setting. The practicum class should meet at least twice a month to discuss the students' work progress, the observations, insights, reflections, and learning of the students during their practicum work, as well as issues in professional psychology including ethics and areas of concern of the students in their practicum work. *Pre-req: Psych173; Psych172L; Psych193; Psych113; Psych213; Co-req: None*

Psych-ST006 – Special Topics in Psychology   6 units

A course that will serve as a preparation for the Board Licensure Examination for Psychologists and Psychometricians (BLEPP). This is conducted in partnership with a credible review center and professional lecturers. *Pre-req: None; Co-req: Psych-RESB*

PROGRAM DESCRIPTION

Bachelor of Elementary Education (BEEd) is a four-year program that provides aspiring elementary school teachers the academic and practical preparation they need to be equipped with the 21st century skills and 5th Industrial revolution. Its curriculum is designed with a variety of elements, including fundamental general education, subject-matter proficiency, technology- based teaching and learning skills, moral and professional guiding principles, and empirical literacy skills suited for the teaching level. The curriculum combines theory and practice, and its culmination is an extensive teaching internship that is made possible with the assistance of experienced educators who have an immense amount of professional expertise.

The BEEd program aims to address the demand for competent, competitive, and professional Filipino educators in Philippine elementary schools. BEEd program graduates are prepared to take, pass the Licensure Examination for Teachers (LET), and earn their professional licenses from the Professional Regulation Commission (PRC).

Program Educational Objectives

Three to five years after graduation, the Bachelor of Elementary Education (BEEd) alumni shall:
1. Exhibit high motivation and competency in specializing in the content and pedagogy in elementary education;
2. Manifest basic and higher level literacy, communication, numeracy, critical thinking, and learning skills needed for higher learning;
3. Demonstrate and practice the professional and ethical requirements of the teaching profession;
4. Facilitate learning of diverse types of learners in diverse types of learning environment;
5. Create and innovate teaching approaches, take informed risks in trying out these innovative approaches, and evaluate the effectiveness of such approaches in improving student learning;
6. Engage in continuing professional development by pursuing post-graduate studies and building professional links with colleagues to enrich teaching practice;
7. Maintain stature and behavior that upholds the dignity of teaching in addition to being competent and dedicated Filipino Christian teachers; and
8. Assume leadership role in one's career, profession, and community.

Program Outcomes and Performance Indicators

Upon completion of Bachelor of Elementary Education (BEEd), the graduate, who is trained in a culture of conscience and excellence with Filipino, Dominican, and Christian in orientation, must be able to:

Program Outcomes	Performance Indicators
1. Articulate and discuss the latest developments in the specific field of practice	• Engage in continual learning in one's specialization
2. Effectively communicate orally and in writing using English, Filipino, mother tongue language, and an appropriate Foreign Language required by the industry	• Express oneself clearly in verbal or written forms the updates in one's career or vocation • Convey positive Filipino values in one's decisions and actions • Defend satisfactorily his/her thesis from a panel of experts

3. Work effectively and independently in multi-disciplinary and multi-cultural teams	• Perform well as a team leader or member in any kind of group project or activity • Perform independently and cooperatively to accomplish worthwhile goals
4. Act in recognition of professional, social, and ethical responsibility	• Maintain stature and behavior that uphold the Professional Code of Ethics • Immerse in an actual working environment in industry
5. Preserve and promote Filipino historical and cultural heritage (based on RA No. 7722)	• Demonstrate responsible Filipino citizenship in local, national or international communities
6. Participate in various types of employment, development activities, and public discourses, particularly in response to the needs of the communities one serves	• Plan and take action for the welfare of the community • Continually engage oneself in development projects and activities that address the community needs
7. Manifest strong commitment and conviction to the Christian and Dominican teachings and philosophy in thoughts, words, and deeds	• Observe the Dominican values of study, prayer, community, and service • Uphold ecological consciousness and engage in environmental stewardship • Participate actively in the community's spiritual and social advocacy or extension program
8. Articulate the rootedness of education in philosophical, socio-cultural, historical, psychological, and political contexts	• Discuss in-depth the interplay of various contexts in education

9. Demonstrate mastery of subject matter/discipline	• Explain subject matter content clearly, accurately and comprehensively • Relate content with past and future lessons • Provide example from real life to make learning meaningful • Integrate recent developments in education and in the specific field to enrich learning experiences
10. Facilitate learning using a wide range of teaching methodologies and delivery modes appropriate to specific learners and their environments	• Utilize appropriate teaching-learning methods and technology for specific subject matter content
11. Develop innovative curricula, instructional plans, teaching approaches, and resources for diverse learners	• Design innovative strategies that heighten students' engagement in the classroom • Prepare instructional plans utilizing various approaches, methods, and techniques • Conduct teaching demonstrations to show effective use different approaches, methods, and techniques
12. Apply skills in the development and utilization of ICT to promote quality, relevant, and sustainable educational practices	• Utilize appropriate pedagogy and use of technology for the different content areas • Initiate advocacy campaigns towards the attainment of sustainable development goals through technology • Integrate the environmental principles in learning and teaching through ICT • Use context appropriate technology in teaching-learning English vis-à-vis 21st Century learning

	• Use tools and technology to enhance learning and teaching • Utilize appropriate technologies to achieve learning outcomes
13. Demonstrate a variety of thinking skills in planning, monitoring, assessing, and reporting learning processes and outcomes	• Employ effective teaching techniques for diverse types of learners in varied learning conditions • Design and utilize a variety of appropriate assessment techniques to monitor and evaluate learning • Create and utilize learning experiences in the classrooms to develop learners' skills in discovery learning, problem learning, and critical thinking • Produce assessment materials to measure students' performance
14. Practice professional and ethical teaching standards sensitive to the changing local, national, and global realities	• Maintain stature and behavior that uphold the Professional Code of Ethics • Immerse in an actual working environment in industry
15. Pursue lifelong learning for personal and professional growth through varied experiential and field-based opportunities	• Access information from local and foreign media about educational issues to enhance knowledge • Participate in research to improve the teaching and learning of the different courses • Join seminars/trainings/workshops and related activities to improve the teaching and learning of the different courses

	• Pursue personal growth and professional development through attendance in seminar-workshops, participation in demo-fests, conducting action research and other education related activities • Participate actively in the school's community outreach activities • Keep abreast with educational issues, trends and practices vis-à-vis local and global context to provide relevant learning experiences. • Conduct relevant research that contributes to current studies in Education • Design community-based activities to help learners achieve an integrated view of social development
16. Demonstrate in-depth understanding of the diversity of learners in various learning areas.	• Identify various types of learners and provide them with appropriate, culturally-relevant learning activities and experiences • Develop and utilize relevant materials that match the learners' learning styles, goals, and culture • Select instructional strategies for the development of learners' critical and creative thinking skills • Utilize developmentally appropriate activities in teaching the different learning areas • Utilize appropriate technologies to achieve the learning outcomes

	• Apply theories of learning in designing, learning-teaching experiences
17. Manifest meaningful and comprehensive pedagogical content knowledge (PCK) of the different subject areas.	• Explain subject matter content clearly, accurately, and comprehensively • Relate current content with past and future lessons • Integrate recent developments in education and in the specific field to enrich learning • Provide examples from real life to make learning meaningful • Utilize appropriate teaching-learning methods and technology for specific subject matter content • Keep abreast with educational issues, trends, and practices vis-à-vis local and global context to provide relevant learning experiences
18. Utilize appropriate assessment and evaluation tools to measure learning outcomes.	• Design authentic assessment, evaluation instruments, and alternative assessment tools • Interpret assessment results and use these to improve learning and teaching • Keep accurate and updated records of the learners' performance using technology tools where feasible and appropriate • Provide timely feedback of assessment results to parents and other stakeholders

19. Manifest skills in communication, higher order thinking and use of tools and technology to accelerate learning and teaching.	• Demonstrate skills in creative and critical thinking, logical reasoning, problem solving, and decision making in various classroom situations • Create learning experiences that develop the learners' higher order thinking skills • Provide opportunities that develop the learners' communication skills • Use tools and technology to enhance learning and teaching
20. Demonstrate positive attributes of a model teacher, both as an individual and as a professional.	• Act according to the norms of the teaching profession in dealing with students, parents, colleagues, and other stakeholders • Manifest positive personal and professional qualities of a teacher • Observe integrity and professionalism in handling issues, conflicts, and controversies related to student welfare as well as parents and community concerns
21. Manifest a desire to continuously pursue personal and professional development	• Pursue a personal growth and professional development through attendance in seminar-workshops, participation in demo-fests, conducting action research, and other education-related activities • Participate actively in the school's community outreach activities.

BACHELOR OF ELEMENTARY EDUCATION
GENERAL SUMMARY OF COURSES

I. General Education Courses

A. Core Courses — 24
GEC003	Understanding the Self	3
GEC013	Science, Technology, and Society	3
GEC023	Mga Babasahin Hinggil sa Kasaysayan ng Pilipinas	3
GEC033	Mathematics in the Modern World	3
GEC043	The Contemporary World	3
GEC053	Art Appreciation	3
GEC063	Purposive Communication	3
GEC073	Ethics	3

B. CHED Mandated Courses — 26
a. Rizal Course
RZL023	Buhay at Mga Akda ni Rizal	3

b. Physical Education Courses
PATHFIT1002	Movement Competency Training	2
PATHFIT2022	Exercise Based Fitness Activities	2
PATHFIT3032	Individual/Dual Sports	2
PATHFIT4042	Contemporary Dance	2

c. National Service Training Program
NSTP1-18	National Service Training Program 1	3
NSTP2-18	National Service Training Program 2	3

d. GENED Elective Courses
GECELEC1	Living in the IT Era	3
GECELEC2	The Entrepreneurial Mind	3
GECELEC3	Philippine Popular Culture	3

C. Institutional Mandated Courses — 18
a. Religious Education Courses
RELED053	The Catholic Christian Faith	3
RELED063	Contemporary Issues in Christian Marriage	3
RELED073	Contemporary Issues About Church and Human Society with Immersion	3
RELED083	Christian Ethics	3

b. Letran Quality Enrichment Courses
LQEC23-013	Letran Quality Enhancement Course I (Letran Calamba Identity and 21st Century Learning	3
LQEC23-023	Letran Quality Enhancement Course II (21st Century Literacy Skills & Life Skills and	3

II. Professional Education Courses — 42
A. Foundation/Theories and Concepts
EDUC233	The Teaching Profession	3
EDUC253	The Child and Adolescent Learners and Learning Principles	3
EDUC293	Foundation of Special and Inclusive Education	3
EDUC313	The Teacher and the Community, School Culture and Organizational Leadership	3

B. Pedagogical Content Knowledge
EDUC063A	Assessment in Learning 1	3

	EDUC063B	Assessment in Learning 2	3
	EDUC263	Building and Enhancing New Literacies Across the Curriculum	3
	EDUC273	Technology for Teaching and Learning 1	3
	EDUC283	Facilitating Learner Centered Teaching	3
	EDUC303	The Teacher and the School Curriculum	3

C. Experiential Learning

FS1	Field Study 1 (Observation of Teaching Learning in Actual School Environment)	3
FS2	Field Study 2 (Participation and Teaching Assistantship)	3
EDUC-PRC6	Practice Teaching (Off-campus/600 hrs)	6

III. Major Courses   57

ELEM013	Teaching Biology and Chemistry in the Elementary Grades	3
ELEM023	Teaching Philippine History and Government in the Elementary Grades	3
ELEM033	Teaching Math in the Primary Grades	3
ELEM043	Good Manners and Right Conduct (Edukasyon sa Pagpapakatao)	3
ELEM053	Teaching Language Arts in the Elementary Grades	3
ELEM063	Pagtuturo ng Estruktura at Gamit ng Wikang Filipino sa Elementarya	3
ELEM073	Teaching Music in the Elementary Grades	3
ELEM083	Edukasyong Pantahanan at Pangkabuhayan	3
ELEM093	Teaching Arts in the Elementary Grades	3
ELEM103	Pagtuturo ng Panitikan ng Pilipinas sa Elementarya	3
ELEM113	Teaching Physics, Earth, and Space Science in the Elementary Grades	3
ELEM123	Teaching Culture and Geography in the Elementary Grades	3
ELEM133	Technology for Teaching and Learning in the Elementary Grades	3
ELEM143	Teaching English in the Elementary Grades Through Literature	3
ELEM153	Teaching Math in the Intermediate Grades	3
ELEM163	Content and Pedagogy for the Mother-Tongue	3
ELEM173	Teaching PE and Health in the Elementary Grades	3
ELEM183	Edukasyong Pantahanan at Pangkabuhayan with Entrepreneurship	3
ELEM193	Research in Education	3

IV. Elective   3

ELEM-ELEC1	Teaching Multi-Grade Classes	3

V. Additoinal Courses   12

EDUC-RESA	Educational Research I	3
EDUC-RESB	Educational Research II	3
EDUC-ST006	Special Topics	6

TOTAL UNITS	**182**

BACHELOR OF ELEMENTARY EDUCATION
Curriculum Year 2023-2024

Course Code	COURSE TITLE	Lec Units/Hrs	Lab Units/ Hrs	TOTAL	Pre-requisites/ Co-requisites
FIRST YEAR, First Semester					
EDUC253	The Child and Adolescent Learners and Learning Principles	3		3	
EDUC293	Foundation of Special and Inclusive Education	3		3	
EDUC303	The Teacher and the School Curriculum	3		3	
GEC003	Understanding the Self	3		3	
GEC023	Mga Babasahin Hinggil sa Kasaysayan ng Pilipinas	3		3	
GEC043	The Contemporary World	3		3	
LQEC23-013	Letran Quality Enhancement Course I (Letran Calamba Identity and 21st Century Learning Skills)	3		3	
RELED053	The Catholic Christian Faith	3		3	
	Total	**24**	**0**	**0**	**24**
FIRST YEAR, Second Semester					
EDUC263	Building and Enhancing New Literacies Across the Curriculum	3		3	
EDUC273	Technology for Teaching and Learning 1	3		3	
EDUC283	Facilitating Learner Centered Teaching	3		3	
GEC053	Art Appreciation	3		3	
GEC063	Purposive Communication	3		3	
LQEC23-023	Letran Quality Enhancement Course II (21st Century Literacy Skills & Life Skills and Sustainability)	3		3	LQEC23-013
NSTP1-18	National Service Training Program 1	3		3	
PATHFIT1002	Movement Competency Training	2		2	
RELED063	Contemporary Issues in Christian Marriage	3		3	RELED053
	Total	**26**	**0**	**0**	**26**
SECOND YEAR, First Semester					
EDUC063A	Assessment in Learning 1	3		3	
ELEM013	Teaching Biology and Chemistry in the Elementary Grades	3		3	
ELEM023	Teaching Philippine History and Government in the Elementary Grades	3		3	co-req ELEM013, ELEM033
ELEM033	Teaching Math in the Primary Grades	3		3	co-req ELEM013, ELEM023
ELEM133	Technology for Teaching and Learning in the Elementary Grades	3		3	
NSTP2-18	National Service Training Program 2	3		3	NSTP1-18
PATHFIT2022	Exercise Based Fitness Activities	2		2	PATHFIT1002
RELED083	Christian Ethics	3		3	RELED053
RZL023	Buhay at Gawa ni Rizal	3		3	
	Total	**26**	**0**	**0**	**26**
SECOND YEAR, Second Semester					
EDUC063B	Assessment in Learning 2	3		3	EDUC063A

BACHELOR OF ELEMENTARY EDUCATION
Curriculum Year 2023-2024

Course Code	COURSE TITLE	Lec Units/Hrs	Lab Units/	Hrs	TOTAL	Pre-requisites/ Co-requisites
ELEM053	Teaching Language Arts in the Elementary Grades	3			3	co-req ELEM093
ELEM063	Pagtuturo ng Estruktura at Gamit ng Wikang Filipino sa Elementarya	3			3	
ELEM073	Teaching Music in the Elementary Grades	3			3	
ELEM083	Edukasyong Pantahanan at Pangkabuhayan	3			3	co-req ELEM043
ELEM093	Teaching Arts in the Elementary Grades	3			3	co-req ELEM053
ELEM043	Pagpapakatao)	3			3	co-req ELEM083
GEC013	Science, Technology, and Society	3			3	
GECELEC1	Living in the IT Era	3			3	
PATHFIT3032	Individual/Dual Sports	2			2	PATHFIT1002, PATHFIT2022
	Total	**29**	**0**	**0**	**29**	

THIRD YEAR, First Semester

Course Code	COURSE TITLE	Lec Units/Hrs	Lab Units/	Hrs	TOTAL	Pre-requisites/ Co-requisites
ELEM103	Pagtuturo ng Panitikan ng Pilipinas sa Elementarya	3			3	ELEM063
ELEM113	Teaching Physics, Earth, and Space Science in the Elementary Grades	3			3	ELEM013
ELEM123	Teaching Culture and Geography in the Elementary Grades	3			3	ELEM023
ELEM143	Teaching English in the Elementary Grades Through Literature	3			3	ELEM053
ELEM193	Research in Education	3			3	co-req ELEM-ELEC1
ELEM-ELEC1	Teaching Multi-Grade Classes	3			3	co-req ELEM193
GEC033	Mathematics in the Modern World	3			3	
GECELEC2	The Entrepreneurial Mind	3			3	
PATHFIT4042	Contemporary Dance	2			2	PATHFIT1002, PATHFIT2022
RELED073	Immersion	3			3	RELED053
	Total	**29**	**0**	**0**	**29**	

THIRD YEAR, Second Semester

Course Code	COURSE TITLE	Lec Units/Hrs	Lab Units/	Hrs	TOTAL	Pre-requisites/ Co-requisites
EDUC233	The Teaching Profession	3			3	
EDUC313	The Teacher and the Community, School Culture and Organizational Leadership	3			3	
EDUC-RESA	Educational Research I	3			3	ELEM193
ELEM153	Teaching Math in the Intermediate Grades	3			3	ELEM033
ELEM163	Content and Pedagogy for the Mother-Tongue	3			3	
ELEM173	Teaching PE and Health in the Elementary Grades	3			3	ELEM073, ELEM093
ELEM183	Edukasyong Pantahanan at Pangkabuhayan with Entrepreneurs	3			3	ELEM083
GEC073	Ethics	3			3	
GECELEC3	Philippine Pop Culture	3			3	
	Total	**27**	**0**	**0**	**27**	

BACHELOR OF ELEMENTARY EDUCATION
Curriculum Year 2023-2024

Course Code	COURSE TITLE	Lec Units/Hrs	Lab Units/	Hrs	TOTAL	Pre-requisites/ Co-requisites
FOURTH YEAR, First Semester						
EDUC-RESB	Educational Research II	3			3	EDUC-RESA
EDUC-ST006	Special Topics	6			6	co-req FS1, FS2
FS1	Field Study 1 (Observation of Teaching Learning in Actual	3			3	EDUC233, co-req FS2
FS2	Field Study 2 (Participation and Teaching Assistantship)	3			3	EDUC233, co-req FS1
	Total	**15**	**0**	**0**	**15**	
FOURTH YEAR, Second Semester						
EDUC-PRC6	*Practice Teaching (Off-campus/600 hrs)	6			**6**	FS1, FS2
	Total	**6**	**0**	**0**	**6**	
	GRAND TOTAL	**182**	**0**	**0**	**182**	

Practicum - No simultaneous enrollment is allowed.

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COURSE DESCRIPTION

I. GENERAL EDUCATION COURSE

A. CORE COURSES

GEC003 - Understanding the Self   **3 units**
The course discusses the nature of identity, its factors and forces that affect the development and maintenance of personal identity. It is intended to facilitate the exploration of the issues and concerns regarding self and identity to arrive at a better understanding of one's self. It strives to meet this goal by stressing the integration of the personal with the academic — contextualizing matters discussed in the classroom and in the everyday experiences of students — making for better learning, generating a new appreciation for the learning process, and developing a more critical and reflective attitude while enabling them to manage and improve their selves to attain a better quality of life.

This also includes mandatory topics on Family Planning and Population Education. *Pre-req: None; Co-req: None*

GEC013 - Science, Technology, and Society   **3 units**
The course deals with interactions between science and technology and social cultural, political, and economic contexts, which shape and are shaped by them.

The interdisciplinary course engages students to confront the realities brought about by science and technology in society. Such realities pervade the personal, the public, and the global aspects of our living and are integral to human development. Scientific knowledge and technological development happen in the context of society with all its socio-political, cultural, economic, and philosophical underpinnings at play. This course seeks to instill reflective knowledge in the students that they are able to live the good life and display ethical decision making in the face of scientific and technological advancement.

This also includes discussion of climate change and environmental awareness as well as the implementation of the different environmental protection laws. *Pre-req: None; Co-req: None*

GEC023 - Mga Babasahin Hinggil sa Kasaysayan ng Pilipinas   **3 units**
Ang kursong ito ay tumatalakay sa mga piling primaryang sanggunian ukol sa iba't ibang yugto ng kasaysayan ng Pilipinas, pagsusuri at interpretasyon. Isasama din ang pagtalakay sa konstitusyon ng Pilipinas simula sa taong 1899 hanggang sa taong 1987. Ganun din ang pagtalakay sa repormang agraryo. Gayundin ang pagtalakay sa pagbubuwis bilang instrumento ng pamahalaan. Ito ay may kaugnayan sa tibay ng pagbubuwis bilang isa sa tatlong kapangyarihan ng pamahalaan na nakasaad sa Saligang Batas taong 1987. *Pre-req: None; Co-req: None*

GEC033 - Mathematics in the Modern World
3 units

The course discusses the nature of Mathematics, appreciation of its practical, intellectual, and aesthetic dimensions, and application of mathematical tools in daily life. *Pre-req: None; Co-req: None*

GEC043 - The Contemporary World
3 units

The course discusses globalization and its impact on individuals, communities and nations, challenges and responses. It introduces students to the contemporary world by examining the multifaceted phenomenon of globalization. Using the various disciplines of the social sciences, it examines the economic, social, political, technological, and other transformations that have created an increasing awareness of the interconnectedness of people and places around the globe. It provides an overview of the various debates in global governance, development, and sustainability. Beyond exposing the student to the world outside the Philippines, it seeks to inculcate a sense of global citizenship and global ethical responsibility.

This also includes mandatory topics on population education in the context of population and demography. *Pre-req: None; Co-req: None*

GEC053 - Art Appreciation
3 units

The course discusses the nature, function and appreciation of the arts in contemporary society. It intends to develop students' ability to appreciate, analyze, and critique works of art. Through interdisciplinary and multimodal approaches, this course equips students with a broad knowledge of the practical, historical, philosophical, and social relevance of the arts. This will hone their ability to articulate their understanding of the arts. It will also develop students' competency in researching and curating arts as well as conceptualizing, mounting, and evaluating art productions. The course aims to develop students' genuine appreciation for Philippine arts by providing them opportunities to explore the diversity and richness and their rootedness in Filipino culture. *Pre-req: None; Co-req: None*

GEC063 - Purposive Communication
3 units

The course discusses writing, speaking and presenting to different audiences and for various purposes. It develops students' communicative competence and enhances their cultural and intercultural awareness through multimodal tasks that provide them opportunities for communicating effectively and appropriately to a multicultural audience in a local or global context. It equips students with tools for critical evaluation of a variety of texts and focuses on the power of language and the impact of images to emphasize the importance of conveying messages responsibly. *Pre-req: None; Co-req: None*

GEC073 – Ethics
3 units

This course covers the context and tenets of ethical behavior in modern society including how individuals and communities interact with the environment and other common resources. It helps one to enhance their grasp of ethics and moral reasoning through the study of numerous theoretical viewpoints and moral experiences that make up so much of the core of daily life. By the end of the course, students should be able to articulate why and how people are seen as moral beings existing in a moral universe with a responsibility to protect themselves, one another, and the environment for everyone. *Pre-req: None; Co-req: None*

B. GENERAL EDUCATION ELECTIVE COURSES

GECELEC1 - Living in the IT Era   3 units
This general education elective course discusses how information technology shaped that way of life in the modern era. It discusses the science, culture and ethics information technology as well as how it affects contemporary life and interpersonal interactions and the way it may be used to promote one's social, professional, and personal goals. *Pre-req: None; Co-req: None*

GECELEC2 - The Entrepreneurial Mind   3 units
This general education elective course focuses on the nature and fundamentals of entrepreneurship as well as its societal responsibilities and repercussions. It is designed to assist students comprehend the business environment and encourage individuals adopt and innovative mindset. *Pre-req: None; Co-req: None*

GECELEC3 - Philippine Popular Culture   3 units
This general education elective course focuses on the emerging potential and expectation of mass audiences, markets and mass media, as well as their social, economic, and political settings, in the field of art, music, and literature. By the completion of the course, students should be able to demonstrate their appreciation of traditional and modern cultural expressions of as well as identify, analyze and develop trends in Philippine culture that have been inspired by various internal and external influences.
Pre-req: None; Co-req: None

C. CHED MANDATORY COURSES

RZL023 - Buhay at Mga Akda ni Rizal   3 units
Ito'y isang pag-aaral sa buhay at gawa ni Gat. Jose Rizal at ang kaugnayan at kahalagahan sa nilalaman ng pangkasaysayang pagsulong ng lipunang Pilipino. Gamit ang istratehiyang 'Dambana" kung saan ang mag-aaral ay maglalaan ng panahon sa Bahay-Rizal sa Calamba, ang mag-aaral ay magiging kabahagi ng Rizal Shrine staff sa edukasyong pangkasaysayan ng mga panauhin sa Bahay-Rizal. *Pre-req: None; Co-req: None*

D. INSTITUTIONAL MANDATED COURSES

LQEC23-013 - Letran Quality Enrichment Course I (Letran Calamba Identity and 21st Century Learning Skills)   3 units
LQEC 1 is an enhancement course that is designed to introduce the identity of Colegio de San Juan de Letran Calamba including its history, Dominican spirituality, mission, vision, quality objectives, policies , processes and services. It also introduces the "Four Cs" of 21st Century Learning: Critical Thinking, Creativity, Collaboration and Communication that aims to enhance students' knowledge and awareness of the essential communication concepts and establish deep comprehension of the processes in a creative manner.
Furthermore, it helps the learners to formulate logical and well-thought-out reasoned judgments and promote active engagement with others to achieve a common goal. *Pre-req: None; Co-req: None*

LQEC23-023 - Letran Quality Enrichment Course II (21st Century Literacy Skills & Life Skills and Sustainability)   3 units
LQEC 2 is an enhancement course that is designed to provide basic understanding about leadership, flexibility, initiative, social skills and productivity. It also introduces digital literacy which focuses on fundamental understanding of media, technology, and information as tools for communication and the advancement of people and communities.
Moreover, the course also introduces the concept of Environment, Social, and Governance (ESG) which determines an organization's commitment to sustainability. All of these are necessary to help the learners become competitively employable in the future of work. *Pre-req: LQEC23-013; Co-req: None*

RELED053 - The Catholic Christian Faith   3 units
This course deals with the basic Catholic Christian Doctrine. It highlights the 12 articles of faith in the Apostles Creed, as well as the Sacred Scripture. Thus it guides the students to a life of truth, fidelity and worship to God. *Pre-req: None; Co-req: None*

RELED063 - Contemporary Issues in Christian Marriage   3 units
Contemporary Issues in Christian Marriage is a three unit academic subject. The emphasis of the course is on Marriage and Family presented as a vocation and a sacrament. The study prepares the students for the reception of the sacrament and achievement of a better outlook on the realities and complexities of the married state and family life. *Pre-req: RELED053; Co-req: None*

RELED073 - Contemporary Issues About Church and Human Society with Immersion   **3 units**

Contemporary Issues About Church and Human Society with Immersion is a three unit academic subject. This course studies the seven themes of the social teachings of the Catholic Church. It also tackles contemporary social issues which hamper the development of our country. An integral part of the course is Makipamuhay, a learning strategy that allows students to experience direct contact with the oppressed in society specifically the rural poor and leads them to develop personal as well as communal witnessing to authentic Christian faith. *Pre-req: RELED053; Co-req: None*

RELED083 - Christian Ethics   **3 units**

This course presents the foundations and fundamentals of Christian Ethics and their application to issues and concerns related to the Ten Commandments. *Pre-req: RELED053; Co-req: None*

E. PHYSICAL EDUCATION COURSES

PATHFIT1002 - Movement Competency Training   **2 units**

This course provides training in different movement and core engagement in conjunction with principles of healthy and physical active life. Students will be able to adopt and transfer the movement competency in different contexts. *Pre-req: None; Co-req: None*

PATHFIT2022 - Exercise-Based Fitness   **2 units**

This course provides experiences in core stability, strength, and mobility training. It includes goal setting exercise progression and regression and periodic assessment for the development of various fitness component. *Pre-req: PATHFIT1002; Co-req: None*

PATHFIT3032 - Individual/Dual Sports   **2 units**

This course puts emphasis on gaining basic knowledge of individual/dual sports, fitness and lifetime activities. It also includes different kinds of individual/dual sports. Students will learn the skills and game strategies for each sport as well as their historical background and terminology. Activities promote participation in physical activity to achieve good health and wellness. *Pre-req: PATHFIT1002, PATHFIT2022; Co-req: None*

PATHFIT4042 - Contemporary Dance   **2 units**

This course provides the students the foundations of contemporary dance technique and execution. It focuses on various movement concepts at each level, particularly designed solos, and the integration of organized improvisation to provide students, the opportunity to explore and come up with their own movement language. It encourages creativity by fusing elements of jazz, modern dance, lyrical dance, classical ballet, and other disciplines. *Pre-req: PATHFIT1002, PATHFIT2022; Co-req: None*

F. NATIONAL SERVICE TRAINING PROGRAM

NSTP1-18 - National Service Training Program 1   3 units
The National Service Training Program 1 is a curricular offering consisting of lectures and trainings on citizenship, values education, environment and drug education, disaster management, transformational leadership, dimensions of development and literacy and numeracy skills aimed to empower the youth as potential community leaders toward national development. *Pre-req: None; Co-req: None*

NSTP2-18 - National Service Training Program 2   3 units
The National Service Training Program 2 is a sequel to NSTP1. This course is designed to equip the students with the fundamentals of project identifications, planning implementation and evaluation which include but is not limited to lecture and training on social mobilization, community development, and community service. The students are required to undergo the process of community immersion in pursuit of applying the concepts learned in contributing to the general welfare of in the Colegio's partner communities. *Pre-req: NSTP1-18; Co-req: None*

II. EDUCATION COURSES

A. FOUNDATION THEORIES AND CONCEPTS

EDUC233 - The Teaching Profession   3 units
This course deals with the teacher as a person and as a professional within the context of national and global teacher's standards and education philosophies. It will include professional ethics, core values, and awareness of professional rights, privileges and responsibilities as well as the teacher's roles in the society as transformative agent of change. *Pre-req: None; Co-req: None*

EDUC253 - The Child and Adolescent Learners and Learning Principles   3 units
The course focuses on child and adolescent development with emphasis on current research and theory on biological, linguistic, cognitive, social and emotional dimensions of development. Further, this includes factors that affect the progress of development of the learners and shall include appropriate pedagogical principles applicable for each development level. *Pre-req: None; Co-req: None*

EDUC293 - Foundation of Special and Inclusive Education   3 units
This course shall deal with philosophies, theories and legal bases of special needs and inclusive education, typical and atypical development of children, learning characteristics of students with special educational needs (gifted and talented, learners with difficulty in seeing, learners with difficulty hearing, learners with difficulty communicating, learners with difficulty walking/moving, learners with difficulty remembering and focusing, learner with difficulty with self-care)and strategies in teaching and managing these learners in the regular class. *Pre-req: None; Co-req: None*

EDUC313 - The Teacher and the Community, School Culture and Organizational Leadership   3 units
This course focuses on society as a context upon which the schools have been established. Educational philosophies that are related to the society as a foundation of schools and schooling shall be emphasized. Further, principles and theories on school culture, and organizational leadership shall be included to prepare prospective teachers to become school leaders and managers. *Pre-req: None; Co-req: None*

B. PEDAGOGICAL CONTENT KNOWLEDGE

EDUC063A - Assessment in Learning 1   3 units
This is a course that focuses on principles, development and utilization of conventional assessment tools to improve the teaching-learning process. It emphasizes on the use of assessment of, as and for, measuring knowledge, comprehension and other thinking skills in the cognitive, psychomotor or affective domains. It allows students to go through the standard steps in test construction and development and the application in grading systems. *Pre-req: None; Co-req: None*

EDUC063B - Assessment in Learning 2   3 units
This is a course that focuses on the principles, development and utilization of alternative forms of assessment in measuring authentic learning. It emphasizes on how to assess process-and product-oriented learning outcomes as well as affective learning. Students will experience how to develop rubrics and other assessment tools performance-based and product-based assessment. *Pre-req: EDUC063A; Co-req: None*

EDUC263 - Building and Enhancing New Literacies Across the Curriculum   3 units
This course introduces the concepts of new literacies in the 21st century as an evolving social phenomena and shared cultural practices across learning areas. The 21st century literacies shall include (a) globalization and multi-cultural literacy, (b) social literacy, (c) media literacy, (d) financial literacy, (e) cyber literacy/digital literacy, (f) eco-literacy and (g) arts and creativity literacy. Field based-interdisciplinary explorations and other teaching strategies shall be used in this course. *Pre-req: None; Co-req: None*

EDUC273 - Technology for Teaching and Learning 1   3 units
This is an introductory course that explores basic knowledge and skills and values in the use of technology for teaching and learning. It includes ICT policies and safety issues, media and technology in various content areas, learning theories and principles in the use and design of learning lessons, teaching- learning experiences and assessment tasks that utilize appropriate traditional and innovative technologies with social, ethical and legal responsibility in the use of technology tools and resources. *Pre-req: None; Co-req: None*

EDUC283 - Facilitating Learner Centered Teaching   3 units
This course explores the fundamental principles, processes and practices anchored on learner centeredness and other educational psychologies as these apply to facilitate various teaching-learning delivery modes to enhance learning. *Pre-req: None; Co-req: None*

EDUC303 - The Teacher and the School Curriculum   3 units
This course includes the fundamental concepts and principles in curriculum and curriculum development as a foundation to engage prospective teachers as curricularists. The more active the role of the teacher in planning, implementing and evaluating school-curriculum as well as in managing school curriculum change vis-à-vis various context of teaching-learning and curricular reforms shall be given emphasis. *Pre-req: None; Co-req: None*

C. EXPERIENTIAL LEARNING

FS1 - Field Study 1 (Observation of Teaching Learning in Actual School Environment)

3 units

This is the first experiential course which will immerse a future teacher to actual classroom situation and learning environment where direct observation of teaching learning episodes that focuses on the application of educational theories learned in content and pedagogy courses will be made. Observations of the learner's behavior, motivation, strategies of teaching, classroom management, and assessment in learning among others shall be given emphasis. A portfolio shall be required in the course. *Pre-req: EDUC-ST006, EDUC233; Co-req: FS2*

FS2 - Field Study 2 (Participation and Teaching Assistantship) **3 units**

This course is a continuation of FS1 (Observation of Teaching Learning in Actual School Environment). It is school based and allows a re-service student to participate and assist in a limited actual teaching- learning activities that relate to assessment of learning, preparation of instructional materials, preparation of the bulletin boards, and other routines in the classroom. A portfolio which will contain sample lesson or learning plans and demonstration teaching of at least one subject content area will be required. *Pre-req: EDUC233; Co-req: FS1*

EDUC-PRC6 - Practice Teaching (Off-campus/600 hrs) **6 units**

The course is the culminating phase of the teacher education degree program. It is a one semester full time teaching internship in basic education schools outside the Colegio (off-campus) using a clinical approach under the mentorship of a cooperating teacher. A teaching portfolio shall be required at the end of the course. *Pre-req: FS1, FS2; Co-req: None*

D. ADDITIONAL COURSES

EDUC-RESA - Educational Research I **3 units**

The course is a seminar-workshop type that deals with the rudiments of academic/thesis writing. The end product is a thesis proposal which would undergo defense by panel of experts in Education. BEED - *Pre-req: ELEM193; Co-req: None, BSE-ENG - Pre-req: ENED303; Co-req: None, BSE-Math - Pre-req: MTED263; Co-req: None*

EDUC-RESB - Educational Research II **3 units**

The course is the continuation of EDUC-RESA (Educational Research I). The end product is a full-blown thesis that should undergo final defense by panel of experts in Education focusing on the validity and reliability of the findings of the study. *Pre-req: EDUC-RESA; Co-req: None*

EDUC-ST006 – Special Topics   **3 units**

This course focuses on some problems, issues, and trends related to the field of education. This allows students to have a wider knowledge and perspective of the teaching profession through attendance and conduct of seminars on the latest trends in education. It explores emerging concern, new directions, and reforms through examining the critical issues and problems that brought about the different paradigm shifts and transformations currently found in the aims, processes, and delivery of education. This course also includes the conduct of review sessions to help the Education students of Letran Calamba prepare for their Licensure Examinations for Teachers (LET) in the future. *Pre-req: None; Co-req: FS1 &FS2*

III. PROFESSIONAL COURSES

A. ELEMENTARY EDUCATION PROFESSIONAL COURSES

ELEM013 - Teaching Biology and Chemistry in the Elementary Grades   **3 units**

The course includes understanding of spiraling basic science concepts and application of science inquiry in Chemistry and Biology and the use of teaching strategies in the elementary science, development of instructional materials and assessment. Content topics in Chemistry include Properties and Structure of Matter and Changes that Matter Undergo. In Biology content topics includes Parts and Functions of Animals and Plants, Heredity: Inheritance and Variation, Biodiversity and Evolution and Ecosystems. *Pre-req: None; Co-req: None*

ELEM023 - Teaching Philippine History and Government in the Elementary Grades   **3 units**

This course emphasizes the contents of the Philippine History and Government that are necessary in teaching at the elementary level. Further, appropriate teaching strategies and assessment methods shall be included to prepare students to become elementary grades teachers. *Pre-req: None; Co-req: ELEM013, ELEM033*

ELEM033 - Teaching Math in the Elementary Grades   **3 units**

The course equips prospective teachers with pedagogical content knowledge for the teaching of basic contents in mathematics in the primary level. Understanding of key concepts and skills of whole numbers up to 10,000, fractions, measurement, simple geometric figures, pre-algebra concepts and data representation and analysis are applied using appropriate technology. Teaching strategies include problem solving, critical thinking, differentiated instruction, inquiry-based learning with the use of manipulative based on cultural context will be emphasized. *Pre-req: None; Co-req: ELEM013, ELEM023*

ELEM043 - Good Manners and Right Conduct (Edukasyon sa Pagpapakatao)   **3 units**

Anchored on the essential component of personhood that deals with intra/interpersonal relationships which allow harmony with oneself and the environment; this course will highlight the fundamental rules of good manners and appropriate conduct or behavior of each learner which are necessary of the formation of character that embraces the core values of maka-Dios, Maka-Tao, Maka- Bansa and Maka- kalikasan. *Pre-req: None; Co-req: ELEM083*

ELEM053 - Teaching Language Arts in the Elementary Grades 3 units
The course will emphasize English as a second language with main focus on language teaching methodologies to improve knowledge on the structure and fluency in the English language through listening, reading, writing, speaking, and viewing. *Pre-req: None; Co-req: ELEM093*

ELEM063 - Pagtuturo ng Estraktura at Gamit ng Wikang Filipino sa Elementarya 3 units
Pagsasanay ng paggamit ng estraktura at gamit ng Wikang Filipino sa pagtuturo sa elementarya. Sumasaklaw sa dekriptibong pag-aaral ng wikang Filipino sa lebel ng polohiya, morpolohiya, semantiks at sintaks. *Pre-req: None; Co-req: None*

ELEM073 - Teaching Music in the Elementary Grades 3 units
The course deals with the educational foundation of Music as it applies to teaching and learning in the elementary grades. Various teaching strategies and assessment appropriate for each area shall be given emphasis in the course. *Pre-req: None; Co-req: None*

ELEM083 - Edukasyong Pantahanan at Pangkabuhayan 3 units
This course shall include pedagogical content, knowledge and skills in technology and livelihood necessary in teaching and learning in the elementary level. Selected topics in home economics, industrial arts, technology and livelihood education and entrepreneurship shall form a major part of the course. Experiential learning approach shall be the focus of the course. *Pre-req: None; Co-req: ELEM043*

ELEM093 -Teaching Arts in the Elementary Grades 3 units
This course deals with the educational foundations of Arts as these apply to teaching and learning in the elementary grades. Various teaching strategies and assessment appropriate for each area shall be given emphasis in the course. *Pre-req: None; Co-req: ELEM053*

ELEM103 - Pagtuturo ng Panitikan ng Pilipinas sa Elementarya 3 units
Paggamit ng ibat-ibang anyo ng literatura ng Pilipinas galing sa sarili at ibat-ibang rehiyon sa pagtuturo, produksyon at (assessment) na angkop sa elementary. *Pre-req: ELEM063; Co-req: None*

ELEM113 - Teaching Physics, Earth and Space Science in the Elementary Grades 3 units
This course includes understanding of spiraling basic science concepts and application of science inquiry in Physics and Earth and Space, strategies in teaching elementary science, development of instructional materials and assessment. Content topics in Physics include Force and Motion, and Energy while Earth and Space Science include Geology, Meteorology, and Astronomy. *Pre-req: ELEM023; Co-req: None*

ELEM123 - Teaching Culture and Geography in the Elementary Grades 3 units
The course aims to equip the students a strong background in the local history and culture. This background serves as an avenue for further inquiry of the available resources in the community for the localization and contextualization of teaching elementary subjects. Areas to be studied include natural heritage of the locality, tangible and intangible culture that are of great significance to the socio-economic and political activities of the people in the place. In the end they are expected to come up with the profiling of available resources in the community. *Pre-req: ELEM023; Co-req: None*

ELEM133 - Technology for Teaching and Learning in the Elementary Grades 3 units
This course is designed for prospective teachers to develop and use digital and non-digital teaching-learning resources using technology tools appropriate in various subject areas in the elementary level. Further, the course will provide opportunities for students to use technology tools to develop project-based collaborative activities and share resources among communities of practice. *Pre-req: None; Co-req: None*

ELEM143 -Teaching English in the Elementary Grade Through Literature 3 units
This course will focus on Children's Literature in English to include riddles, poetry, stories, drama and other written works as an avenue to teach English language. Teaching methodologies in the use of literature shall be emphasized. *Pre-req: ELEM053; Co-req: None*

ELEM153 - Teaching Math in the Intermediate Grades 3 units
As a preparation for teaching in the intermediate grades, this course emphasizes the integration of technological pedagogical content knowledge that includes topics on rational numbers, measurement, geometric figures, pre-algebra concepts, application of simple probability and data analysis. This course is capped with microteaching that utilizes appropriate teaching strategies for the development of critical and problem solving, reasoning, communicating, making corrections, representations and decisions in real life situations. *Pre-req: ELEM033; Co-req: None*

ELEM163 - Content and Pedagogy for the Mother Tongue 3 units
This course includes both the content and the pedagogy of the mother tongue. The subject matter content includes the structure of the mother tongue as a language, literature in the Mother Tongue, methods and techniques of teaching in the language development of instructional materials and assessment. Pre-req: None; Co-req:None

ELEM173 - Teaching PE and Health in the Elementary Grades 3 units
This course deals with the educational foundations of Physical Education as these apply to teaching and learning in the elementary grades. Various teaching strategies and assessment appropriate for each area shall be given emphasis in the course. Pre-req: ELEM073, ELEM093; Co-req: None

ELEM183 - Edukasyong Pantahanan at Pangkabuhayan with Entrepreneurship 3 units
This course shall include pedagogical content, knowledge and skills in technology and livelihood education necessary in teaching and learning in the elementary level. Selected topics in agriculture arts, fisheries, arts and livelihood education and entrepreneurship shall form the major part of the course. Experiential learning approach shall be the focus of the course. Pre-req: ELEM083; Co-req: None

ELEM193 - Research in Education   3 units

This is a practicum research course that will provide prospective elementary teachers an avenue to conduct applied or action research that will provide empirical bases to improve teaching and learning. *Pre-req: None; Co-req: ELEM-ELEC1*

B. ELECTIVES

ELEM-ELEC1 - Teaching Multi-Grade Classes   3 units

This is a course in implementation of multi-grade course that deals with the theories, principle and concepts of multi-grade learners and classes. It includes pedagogical approaches and contextualized learning environments for the different grade and age levels are grouped for instruction in different school situation. P*re-req: None; Co-req: ELEM193*

PROGRAM DESCRIPTION

Bachelor of Secondary Education Major in English (BSEd English) is a four-year program that provides aspiring secondary school teachers the academic and practical preparation they need to be equipped with the 21st century skills and 5th Industrial revolution. The program provides an in-depth training encompassing relevant and vital skills for teaching English. Its curriculum is designed with a variety of elements, including fundamental general education, subject-matter proficiency, technology-based teaching and learning skills, moral and professional guiding principles, and empirical literacy skills suited for the teaching level. The curriculum combines theory and practice, and its culmination is an extensive teaching internship that is made possible with the assistance of experienced educators who have an immense amount of professional expertise to become efficacious and proficient language teachers.

The BSEd English program aims to address the demand for competent, competitive, and professional Filipino educators in Philippine secondary schools. BSEd English program graduates are prepared to take, pass the Licensure Examination for Teachers (LET), and earn their professional licenses from the Professional Regulation Commission (PRC).

Program Educational Objectives

Three to five years after graduation, the Bachelor of Secondary Education (BSE) major in English alumni shall:

1. Exhibit high motivation and competency in specializing in the content and pedagogy in secondary education;
2. Manifest basic and higher level literacy, communication, numeracy, critical thinking, and learning skills needed for higher learning;
3. Demonstrate and practice the professional and ethical requirements of the teaching profession;
4. Facilitate learning of diverse types of learners in diverse types of learning environment;
5. Create and innovate teaching approaches, take informed risks in trying out these innovative approaches, and evaluate the effectiveness of such approaches in improving student learning;
6. Engage in continuing professional development by pursuing post-graduate studies and building professional links with colleagues to enrich teaching practice;
7. Maintain stature and behavior that upholds the dignity of teaching in addition to being competent and dedicated Filipino Christian teachers; and
8. Assume leadership role in one's career, profession, and community.

Program Outcomes and Performance Indicators

Upon completion of Bachelor of Secondary Education major in English (BSEd English), the graduate, who is trained in a culture of conscience and excellence with Filipino, Dominican, and Christian in orientation, must be able to:

Program Outcomes	Performance Indicators
1. Articulate and discuss the latest developments in the specific field of practice	• Engage in continual learning in one's specialization
2. Work effectively and independently in multi-disciplinary and multi-cultural teams	• Perform well as a team leader or member in any kind of group project or activity • Perform independently and cooperatively to accomplish worthwhile goals

3. Preserve and promote Filipino historical and cultural heritage (based on RA No. 7722)	• Demonstrate responsible Filipino citizenship in local, national or international communities
4. Participate in various types of employment, development activities, and public discourses, particularly in response to the needs of the communities one serves	• Plan and take action for the welfare of the community • Continually engage oneself in development projects and activities that address the community needs
5. Manifest strong commitment and conviction to the Christian and Dominican teachings and philosophy in thoughts, words, and deeds	• Observe the Dominican values of study, prayer, community, and service • Uphold ecological consciousness and engage in environmental stewardship • Participate actively in the community's spiritual and social advocacy or extension program
6. Articulate the rootedness of education in philosophical, socio-cultural, historical, psychological, and political contexts	• Discuss in-depth the interplay of various contexts in education
7. Demonstrate mastery of subject matter/discipline	• Explain subject matter content clearly, accurately and comprehensively • Relate content with past and future lessons • Provide example from real life to make learning meaningful • Integrate recent developments in education and in the specific field to enrich learning experiences

8. Facilitate learning using a wide range of teaching methodologies and delivery modes appropriate to specific learners and their environments	• Utilize appropriate teaching-learning methods and technology for specific subject matter content
9. Develop innovative curricula, instructional plans, teaching approaches, and resources for diverse learners	• Design innovative strategies that heighten students' engagement in the classroom • Prepare instructional plans utilizing various approaches, methods, and techniques • Conduct teaching demonstrations to show effective use different approaches, methods, and techniques
10. Apply skills in the development and utilization of ICT to promote quality, relevant, and sustainable educational practices	• Utilize appropriate pedagogy and use of technology for the different content areas • Initiate advocacy campaigns towards the attainment of sustainable development goals through technology • Integrate the environmental principles in learning and teaching through ICT • Use context appropriate technology in teaching-learning English vis-à-vis 21st Century learning • Use tools and technology to enhance learning and teaching • Utilize appropriate technologies to achieve learning outcomes
11. Demonstrate a variety of thinking skills in planning, monitoring, assessing, and reporting learning processes and outcomes	• Employ effective teaching techniques for diverse types of learners in varied learning conditions

	- Design and utilize a variety of appropriate assessment techniques to monitor and evaluate learning - Create and utilize learning experiences in the classrooms to develop learners' skills in discovery learning, problem learning, and critical thinking - Produce assessment materials to measure students' performance
12. Practice professional and ethical teaching standards sensitive to the changing local, national, and global realities	- Maintain stature and behavior that uphold the Professional Code of Ethics - Immerse in an actual working environment in industry
13. Pursue lifelong learning for personal and professional growth through varied experiential and field-based opportunities	- Access information from local and foreign media about educational issues to enhance knowledge - Participate in research to improve the teaching and learning of the different courses - Join seminars/trainings/workshops and related activities to improve the teaching and learning of the different courses - Pursue personal growth and professional development through attendance in seminar-workshops, participation in demo-fests, conducting action research and other education related activities - Participate actively in the school's community outreach activities

	- Keep abreast with educational issues, trends and practices vis-à-vis local and global context to provide relevant learning experiences. - Conduct relevant research that contributes to current studies in Education - Design community-based activities to help learners achieve an integrated view of social development
14. Possess broad knowledge of language and literature for effective learning	- Integrate the relationship of language, literature, culture, and society in the teaching-learning process - Conduct an independent investigation of a selected structure of English in the context of language classroom - Critique literary pieces using appropriate literary theories
15. Use English as a glocal language in a multilingual context as it applies to the teaching of language and literature	- Incorporate features of English as a glocal language in the design of the curriculum, learning activities, and materials - Draft a proposal for and implement a community-based English language- or literature-based learning program
16. Acquire extensive reading background in language, literature, and allied fields	- Prepare an annotated reading list appropriate for a particular grade level to enhance students' reading skills - Show the ability to enrich the curriculum to include an extensive reading list for learning language, literature, and allied fields

17. Demonstrate proficiency in oral and written communication	• Express oneself clearly in verbal or written forms the updates in one's career or vocation • Defend satisfactorily his/her thesis from a panel of experts • Utilize a variety of oral communication forms in order to become an effective model to learners • Prepare original compositions in expository and creative writing
18. Shows competence in employing innovative language and literature teaching approaches, methodologies, and strategies	• Employ a variety of innovative teaching approaches, methodologies, and strategies • Design learning plans following expectations of the curricula for Grades 7-10 • Perform one independent and one supervised teaching demonstration • Construct appropriate assessment tools for the language and literature classroom
19. Use technology in facilitating language learning and teaching	• Design computer-assisted language and literature learning tasks • Prepare one independent and one supervised technology-based lesson
20. Inspire students and colleagues to lead relevant and transformative changes to improve learning and teaching language and literature	• Conduct a community language profiling survey to make lesson more localized • Draft a proposal for and implements a community-based English language- or literature-based learning program
21. Display skills and abilities to be a reflective and research-oriented language and literature teacher	• Conduct a comprehensive language profiling to identify students' needs • Conduct an analysis of assessment results to improve teaching and learning in the language classroom • Conduct research concerning the teaching and learning of language and literature

BACHELOR OF SECONDARY EDUCATION MAJOR IN ENGLISH
GENERAL SUMMARY OF COURSES

I. General Education Courses

A. Core Courses   24

GEC003	Understanding the Self	3
GEC013	Science, Technology, and Society	3
GEC023	Mga Babasahin Hinggil sa Kasaysayan ng Pilipinas	3
GEC033	Mathematics in the Modern World	3
GEC043	The Contemporary World	3
GEC053	Art Appreciation	3
GEC063	Purposive Communication	3
GEC073	Ethics	3

B. CHED Mandated Courses   26

a. Rizal Course

RZL023	Buhay at Mga Akda ni Rizal	3

b. Physical Education Courses

PATHFIT1002	Movement Competency Training	2
PATHFIT2022	Exercise Based Fitness Activities	2
PATHFIT3032	Individual/Dual Sports	2
PATHFIT4042	Contemporary Dance	2

c. National Service Training Program

NSTP1-18	National Service Training Program 1	3
NSTP2-18	National Service Training Program 2	3

d. GENED Elective Courses

GECELEC1	Living in the IT Era	3
GECELEC2	The Entrepreneurial Mind	3
GECELEC3	Philippine Pop Culture	3

C. Institutional Mandated Courses   18

a. Religious Education Courses

RELED053	The Catholic Christian Faith	3
RELED063	Contemporary Issues in Christian Marriage	3
RELED073	Contemporary Issues About Church and Human Society with Immersion	3
RELED083	Christian Ethics	3

b. Letran Quality Enrichment Courses

LQEC23-013	Letran Quality Enhancement Course I (Letran Calamba Identity and 21st Century Learning	3
LQEC23-023	Letran Quality Enhancement Course II (21st Century Literacy Skills & Life Skills and	3

II. Professional Education Courses   42

A. Foundation/Theories and Concepts

EDUC233	The Teaching Profession	3
EDUC253	The Child and Adolescent Learners and Learning Principles	3
EDUC293	Foundation of Special and Inclusive Education	3
EDUC313	The Teacher and the Community, School Culture and Organizational Leadership	3

B. Pedagogical Content Knowledge

EDUC063A	Assessment in Learning 1	3
EDUC063B	Assessment in Learning 2	3
EDUC263	Building and Enhancing New Literacies Across the Curriculum	3
EDUC273	Technology for Teaching and Learning 1	3

| | EDUC283 | Facilitating Learner Centered Teaching | 3 |
| | EDUC303 | The Teacher and the School Curriculum | 3 |

C. Experiential Learning

	FS1	Field Study 1 (Observation of Teaching Learning in Actual School Environment)	3
	FS2	Field Study 2 (Participation and Teaching Assistantship)	3
	EDUC-PRC6	Practice Teaching (Off-campus/600 hrs)	6

III. Major Courses — 63

	ENED023B	Introduction to Linguistics	3
	ENED053B	Campus Journalism	3
	ENED223	Language, Culture, and Society	3
	ENED233	Structures of English	3
	ENED243	Principles and Theories of Language Acquisition and Learning	3
	ENED253	Language Programs and Policies in Multilingual Societies	3
	ENED263	Language Learning Materials Development	3
	ENED273	Teaching and Assessment of Literature Studies	3
	ENED283	Teaching and Assessment of Macroskills	3
	ENED293	Teaching and Assessment of Grammar	3
	ENED303	Language Education Research	3
	ENED313	Speech and Theater Arts	3
	ENED323	Technical Writing	3
	ENED333-23	Technology for Teaching and Learning 2 (Technology in Language Education)	3
	LIT063	Mythology and Folklore	3
	LIT083	Survey of Afro-Asian Literature	3
	LIT093	Survey of English and American Literature	3
	LIT103	Survey of Philippine Literature in English	3
	LIT113	Children and Adolescent Literature	3
	LIT123	Contemporary, Popular, and Emergent Literature	3
	LIT213	Literary Criticism	3

IV. Electives — 6

| | ENED-ELEC1 | English for Specific Purposes | 3 |
| | ENED-ELEC2 | Stylistic and Discourse Analysis | 3 |

V. Additoinal Courses — 12

	EDUC-RESA	Educational Research I	3
	EDUC-RESB	Educational Research II	3
	EDUC-ST006	Special Topics	6

TOTAL UNITS 191

BACHELOR OF SECONDARY EDUCATION MAJOR IN ENGLISH
Curriculum Year 2023-2024

Course Code	Course Title	Lec Units	Lab Units	Lab Hrs	TOTAL	Pre-requisites/ Co-requisites
FIRST YEAR, First Semester						
EDUC253	The Child and Adolescent Learners and Learning Principles	3			3	
EDUC293	Foundation of Special and Inclusive Education	3			3	
EDUC303	The Teacher and the School Curriculum	3			3	
GEC003	Understanding the Self	3			3	
GEC023	Mga Babasahin Hinggil sa Kasaysayan ng Pilipinas	3			3	
GEC043	The Contemporary World	3			3	
LIT103	Survey of Philippine Literature in English	3			3	
LQEC23-013	Letran Quality Enhancement Course I (Letran Calamba Identity and 21st Century Learning Skills)	3			3	
RELED053	The Catholic Christian Faith	3			3	
	Total	27	0	0	27	
FIRST YEAR, Second Semester						
EDUC263	Building and Enhancing New Literacies Across the Curriculum	3			3	
EDUC273	Technology for Teaching and Learning 1	3			3	
EDUC283	Facilitating Learner Centered Teaching	3			3	
GEC053	Art Appreciation	3			3	
GEC063	Purposive Communication	3			3	
LIT113	Children and Adolescent Literature	3			3	
LQEC23-023	Letran Quality Enhancement Course II (21st Century Literacy Skills & Life Skills and Sustainability)	3			3	LQEC23-013
NSTP1-18	National Service Training Program 1	3			3	
PATHFIT1002	Movement Competency Training	2			2	
	Total	26	0	0	26	
SECOND YEAR, First Semester						
EDUC063A	Assessment in Learning 1	3			3	
ENED023B	Introduction to Linguistics	3			3	co-req ENED233
ENED223	Language, Culture, and Society	3			3	
ENED233	Structures of English	3			3	co-req ENED023B
ENED333-23	Technology for Teaching and Learning 2 (Technology in Language Education)	3			3	EDUC273
LIT063	Mythology and Folklore	3			3	LIT103
NSTP2-18	National Service Training Program 2	3			3	NSTP1-18
PATHFIT2022	Exercise Based Fitness Activities	2			2	PATHFIT1002
RELED083	Christian Ethics	3			3	RELED053
RZL023	Buhay at Gawa ni Rizal	3			3	
	Total	29	0	0	29	

SECOND YEAR, Second Semester

Code	Title				Prerequisite
EDUC063B	Assessment in Learning 2	3		3	EDUC063A
ENED053B	Campus Journalism	3		3	co-req ENED253
ENED243	Principles and Theories of Language Acquisition and Learning	3		3	co-req ENED253
ENED253	Language Programs and Policies in Multilingual Societies	3		3	co-req ENED243, ENED053B
ENED-ELEC1	English for Specific Purposes	3		3	ENED233
GEC013	Science, Technology, and Society	3		3	
GECELEC1	Living in the IT Era	3		3	
LIT083	Survey of Afro-Asian Literature	3		3	LIT103
PATHFIT3032	Individual/Dual Sports	2		2	PATHFIT1002, PATHFIT2022
RELED063	Contemporary Issues in Christian Marriage	3		3	RELED053
	Total	**29**	**0**	**0**	**29**

THIRD YEAR, First Semester

Code	Title				Prerequisite
ENED283	Teaching and Assessment of Macroskills	3		3	co-req ENED293
ENED293	Teaching and Assessment of Grammar	3		3	co-req ENED283
ENED303	Language Education Research	3		3	co-req ENED-ELEC2
ENED-ELEC2	Stylistic and Discourse Analysis	3		3	ENED-ELEC1, co-req ENED303
GEC033	Mathematics in the Modern World	3		3	
GECELEC2	The Entrepreneurial Mind	3		3	
LIT093	Survey of English and American Literature	3		3	LIT083, co-req LIT123
LIT123	Contemporary, Popular, and Emergent Literature	3		3	co-req LIT093
PATHFIT4042	Contemporary Dance	2		2	PATHFIT1002, PATHFIT2022
RELED073	Contemporary Issues About Church and Human Society with Immersion	3		3	RELED053
	Total	**29**	**0**	**0**	**29**

THIRD YEAR, Second Semester

Code	Title				Prerequisite
EDUC233	The Teaching Profession	3		3	
EDUC313	The Teacher and the Community, School Culture and Organizational Leadership	3		3	
EDUC-RESA	Educational Research I	3		3	ENED303
ENED263	Language Learning Materials Development	3		3	ENED-ELEC2
ENED273	Teaching and Assessment of Literature Studies	3		3	ENED293
ENED313	Speech and Theater Arts	3		3	co-req LIT213
ENED323	Technical Writing	3		3	ENED-ELEC2
GEC073	Ethics	3		3	
GECELEC3	Philippine Pop Culture	3		3	
LIT213	Literary Criticism	3		3	co-req ENED313
	Total	**30**	**0**	**0**	**30**

FOURTH YEAR, First Semester

Code	Title				Prerequisite
EDUC-RESB	Educational Research II	3		3	EDUC-RESA

____	EDUC-ST006	Special Topics	6		6	FS1, FS2
____	FS1	Field Study 1 (Observation of Teaching Learning in Actual School Environment)	3		3	EDUC233, co-req FS2
____	FS2	Field Study 2 (Participation and Teaching Assistantship)	3		3	EDUC233, co-req FS1
		Total	**15**	**0**	**0**	**15**

FOURTH YEAR, Second Semester

____	EDUC-PRC6	*Practice Teaching (Off-campus/600 hrs)	6		6	FS1, FS2
		Total	**6**	**0**	**0**	**6**
		GRAND TOTAL	**191**	**0**	**0**	**191**

*Practicum - No simultaneous enrollment is allowed.

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COURSE DESCRIPTION

I. GENERAL EDUCATION COURSES

A. CORE COURSES

GEC003 - Understanding the Self   3 units
The course discusses the nature of identity, its factors and forces that affect the development and maintenance of personal identity. It is intended to facilitate the exploration of the issues and concerns regarding self and identity to arrive at a better understanding of one's self. It strives to meet this goal by stressing the integration of the personal with the academic — contextualizing matters discussed in the classroom and in the everyday experiences of students — making for better learning, generating a new appreciation for the learning process, and developing a more critical and reflective attitude while enabling them to manage and improve their selves to attain a better quality of life.

This also includes mandatory topics on Family Planning and Population Education. *Pre-req: None; Co-req: None*

GEC013 - Science, Technology, and Society   3 units
The course deals with interactions between science and technology and social cultural, political, and economic contexts, which shape and are shaped by them.

The interdisciplinary course engages students to confront the realities brought about by science and technology in society. Such realities pervade the personal, the public, and the global aspects of our living and are integral to human development. Scientific knowledge and technological development happen in the context of society with all its socio-political, cultural, economic, and philosophical underpinnings at play. This course seeks to instill reflective knowledge in the students that they are able to live the good life and display ethical decision making in the face of scientific and technological advancement.

This also includes discussion of climate change and environmental awareness as well as the implementation of the different environmental protection laws. *Pre-req: None; Co-req: None*

GEC023 - Mga Babasahin Hinggil sa Kasaysayan ng Pilipinas   3 units
Ang kursong ito ay tumatalakay sa mga piling primaryang sanggunian ukol sa iba't ibang yugto ng kasaysayan ng Pilipinas, pagsusuri at interpretasyon. Isasama din ang pagtalakay sa konstitusyon ng Pilipinas simula sa taong 1899 hanggang sa taong 1987. Ganun din ang pagtalakay sa repormang agraryo. Gayundin ang pagtalakay sa pagbubuwis bilang instrumento ng pamahalaan. Ito ay may kaugnayan sa tibay ng pagbubuwis bilang isa sa tatlong kapangyarihan ng pamahalaan na nakasaad sa Saligang Batas taong 1987. Pre-req: None; Co-req: None

GEC033 - Mathematics in the Modern World   3 units
The course discusses the nature of Mathematics, appreciation of its practical, intellectual, and aesthetic dimensions, and application of mathematical tools in daily life. *Pre-req: None; Co-req: None*

GEC043 - The Contemporary World
3 units

The course discusses globalization and its impact on individuals, communities and nations, challenges and responses. It introduces students to the contemporary world by examining the multifaceted phenomenon of globalization. Using the various disciplines of the social sciences, it examines the economic, social, political, technological, and other transformations that have created an increasing awareness of the interconnectedness of people and places around the globe. It provides an overview of the various debates in global governance, development, and sustainability. Beyond exposing the student to the world outside the Philippines, it seeks to inculcate a sense of global citizenship and global ethical responsibility.

This also includes mandatory topics on population education in the context of population and demography. *Pre-req: None; Co-req: None*

GEC053 - Art Appreciation
3 units

The course discusses the nature, function and appreciation of the arts in contemporary society. It intends to develop students' ability to appreciate, analyze, and critique works of art. Through interdisciplinary and multimodal approaches, this course equips students with a broad knowledge of the practical, historical, philosophical, and social relevance of the arts. This will hone their ability to articulate their understanding of the arts. It will also develop students' competency in researching and curating arts as well as conceptualizing, mounting, and evaluating art productions. The course aims to develop students' genuine appreciation for Philippine arts by providing them opportunities to explore the diversity and richness and their rootedness in Filipino culture. *Pre-req: None; Co-req: None*

GEC063 - Purposive Communication
3 units

The course discusses writing, speaking and presenting to different audiences and for various purposes. It develops students' communicative competence and enhances their cultural and intercultural awareness through multimodal tasks that provide them opportunities for communicating effectively and appropriately to a multicultural audience in a local or global context. It equips students with tools for critical evaluation of a variety of texts and focuses on the power of language and the impact of images to emphasize the importance of conveying messages responsibly. *Pre-req: None; Co-req: None*

GEC073 – Ethics
3 units

This course covers the context and tenets of ethical behavior in modern society including how individuals and communities interact with the environment and other common resources. It helps one to enhance their grasp of ethics and moral reasoning through the study of numerous theoretical viewpoints and moral experiences that make up so much of the core of daily life. By the end of the course, students should be able to articulate why and how people are seen as moral beings existing in a moral universe with a responsibility to protect themselves, one another, and the environment for everyone. *Pre-req: None; Co-req: None*

B. GENERAL EDUCATION ELECTIVE COURSES

GECELEC1 - Living in the IT Era   3 units
This general education elective course discusses how information technology shaped that way of life in the modern era. It discusses the science, culture and ethics information technology as well as how it affects contemporary life and interpersonal interactions and the way it may be used to promote one's social, professional, and personal goals. *Pre-req: None; Co-req: None*

GECELEC2 - The Entrepreneurial Mind   3 units
This general education elective course focuses on the nature and fundamentals of entrepreneurship as well as its societal responsibilities and repercussions. It is designed to assist students comprehend the business environment and encourage individuals adopt and innovative mindset. *Pre-req: None; Co-req: None*

GECELEC3 - Philippine Popular Culture   3 units
This general education elective course focuses on the emerging potential and expectation of mass audiences, markets and mass media, as well as their social, economic, and political settings, in the field of art, music, and literature. By the completion of the course, students should be able to demonstrate their appreciation of traditional and modern cultural expressions of as well as identify, analyze and develop trends in Philippine culture that have been inspired by various internal and external influences. *Pre-req: None; Co-req: None*

C. CHED MANDATORY COURSES

RZL023 - Buhay at Mga Akda ni Rizal   3 units
Ito'y isang pag-aaral sa buhay at gawa ni Gat. Jose Rizal at ang kaugnayan at kahalagahan sa nilalaman ng pangkasaysayang pagsulong ng lipunang Pilipino. Gamit ang istratehiyang 'Dambana" kung saan ang mag-aaral ay maglalaan ng panahon sa Bahay-Rizal sa Calamba, ang mag-aaral ay magiging kabahagi ng Rizal Shrine staff sa edukasyong pangkasaysayan ng mga panauhin sa Bahay-Rizal. *Pre-req: None; Co-req: None*

D. INSTITUTIONAL MANDATED COURSES

LQEC23-013 - Letran Quality Enrichment Course I (Letran Calamba Identity and 21st Century Learning Skills)   3 units

LQEC 1 is an enhancement course that is designed to introduce the identity of Colegio de San Juan de Letran Calamba including its history, Dominican spirituality, mission, vision, quality objectives, policies , processes and services. It also introduces the "Four Cs" of 21st Century Learning: Critical Thinking, Creativity, Collaboration and Communication that aims to enhance students' knowledge and awareness of the essential communication concepts and establish deep comprehension of the processes in a creative manner.

Furthermore, it helps the learners to formulate logical and well-thought-out reasoned judgments and promote active engagement with others to achieve a common goal. *Pre-req: None; Co-req: None*

LQEC23-023 - Letran Quality Enrichment Course II (21st Century Literacy Skills & Life Skills and Sustainability)   3 units

LQEC 2 is an enhancement course that is designed to provide basic understanding about leadership, flexibility, initiative, social skills and productivity. It also introduces digital literacy which focuses on fundamental understanding of media, technology, and information as tools for communication and the advancement of people and communities.

Moreover, the course also introduces the concept of Environment, Social, and Governance (ESG) which determines an organization's commitment to sustainability. All of these are necessary to help the learners become competitively employable in the future of work. *Pre-req: LQEC23-013; Co-req: None*

RELED053 - The Catholic Christian Faith   3 units

This course deals with the basic Catholic Christian Doctrine. It highlights the 12 articles of faith in the Apostles Creed, as well as the Sacred Scripture. Thus it guides the students to a life of truth, fidelity and worship to God. *Pre-req: None; Co-req: None*

RELED063 - Contemporary Issues in Christian Marriage   3 units

Contemporary Issues in Christian Marriage is a three unit academic subject. The emphasis of the course is on Marriage and Family presented as a vocation and a sacrament. The study prepares the students for the reception of the sacrament and achievement of a better outlook on the realities and complexities of the married state and family life. *Pre-req: RELED053; Co-req: None*

RELED073 - Contemporary Issues About Church and Human Society with Immersion 3 units

Contemporary Issues About Church and Human Society with Immersion is a three unit academic subject. This course studies the seven themes of the social teachings of the Catholic Church. It also tackles contemporary social issues which hamper the development of our country. An integral part of the course is Makipamuhay, a learning strategy that allows students to experience direct contact with the oppressed in society specifically the rural poor and leads them to develop personal as well as communal witnessing to authentic Christian faith. *Pre-req: RELED053; Co-req: None*

RELED083 - Christian Ethics
3 units

This course presents the foundations and fundamentals of Christian Ethics and their application to issues and concerns related to the Ten Commandments. *Pre-req: RELED053; Co-req: None*

E. PHYSICAL EDUCATION COURSES

PATHFIT1002 - Movement Competency Training
2 units

This course provides training in different movement and core engagement in conjunction with principles of healthy and physical active life. Students will be able to adopt and transfer the movement competency in different contexts. *Pre-req: None; Co-req: None*

PATHFIT2022 - Exercise-Based Fitness
2 units

This course provides experiences in core stability, strength, and mobility training. It includes goal setting exercise progression and regression and periodic assessment for the development of various fitness component. *Pre-req: PATHFIT1002; Co-req: None*

PATHFIT3032 - Individual/Dual Sports
2 units

This course puts emphasis on gaining basic knowledge of individual/dual sports, fitness and lifetime activities. It also includes different kinds of individual/dual sports. Students will learn the skills and game strategies for each sport as well as their historical background and terminology. Activities promote participation in physical activity to achieve good health and wellness. *Pre-req: PATHFIT1002, PATHFIT2022; Co-req: None*

PATHFIT4042 - Contemporary Dance
2 units

This course provides the students the foundations of contemporary dance technique and execution. It focuses on various movement concepts at each level, particularly designed solos, and the integration of organized improvisation to provide students, the opportunity to explore and come up with their own movement language. It encourages creativity by fusing elements of jazz, modern dance, lyrical dance, classical ballet, and other disciplines. *Pre-req: PATHFIT1002, PATHFIT2022; Co-req: None*

F. NATIONAL SERVICE TRAINING PROGRAM

NSTP1-18 - National Service Training Program 1
3 units

The National Service Training Program 1 is a curricular offering consisting of lectures and trainings on citizenship, values education, environment and drug education, disaster management, transformational leadership, dimensions of development and literacy and numeracy skills aimed to empower the youth as potential community leaders toward national development. *Pre-req: None; Co-req: None*

NSTP2-18 - National Service Training Program 2
3 units

The National Service Training Program 2 is a sequel to NSTP1. This course is designed to equip the students with the fundamentals of project identifications, planning implementation and evaluation which include but is not limited to lecture and training on social mobilization, community development, and community service. The students are required to undergo the process of community immersion in pursuit of applying the concepts learned in contributing to the general welfare of in the Colegio's partner communities. *Pre-req: NSTP1-18; Co-req: None*

II. EDUCATION COURSES

A. FOUNDATION THEORIES AND CONCEPTS

EDUC233 - The Teaching Profession   **3 units**
This course deals with the teacher as a person and as a professional within the context of national and global teacher's standards and education philosophies. It will include professional ethics, core values, and awareness of professional rights, privileges and responsibilities as well as the teacher's roles in the society as transformative agent of change. *Pre-req: None; Co-req: None*

EDUC253 - The Child and Adolescent Learners and Learning Principles   **3 units**
The course focuses on child and adolescent development with emphasis on current research and theory on biological, linguistic, cognitive, social and emotional dimensions of development. Further, this includes factors that affect the progress of development of the learners and shall include appropriate pedagogical principles applicable for each development level. *Pre-req: None; Co-req: None*

EDUC293 - Foundation of Special and Inclusive Education   **3 units**
This course shall deal with philosophies, theories and legal bases of special needs and inclusive education, typical and atypical development of children, learning characteristics of students with special educational needs (gifted and talented, learners with difficulty in seeing, learners with difficulty hearing, learners with difficulty communicating, learners with difficulty walking/moving, learners with difficulty remembering and focusing, learner with difficulty with self-care)and strategies in teaching and managing these learners in the regular class. *Pre-req: None; Co-req: None*

EDUC313 - The Teacher and the Community, School Culture and Organizational Leadership   **3 units**
This course focuses on society as a context upon which the schools have been established. Educational philosophies that are related to the society as a foundation of schools and schooling shall be emphasized. Further, principles and theories on school culture, and organizational leadership shall be included to prepare prospective teachers to become school leaders and managers. *Pre-req: None; Co-req: None*

B. PEDAGOGICAL CONTENT KNOWLEDGE

EDUC063A - Assessment in Learning 1   **3 units**
This is a course that focuses on principles, development and utilization of conventional assessment tools to improve the teaching-learning process. It emphasizes on the use of assessment of, as and for, measuring knowledge, comprehension and other thinking skills in the cognitive, psychomotor or affective domains. It allows students to go through the standard steps in test construction and development and the application in grading systems. *Pre-req: None; Co-req: None*

EDUC063B - Assessment in Learning 2   **3 units**
This is a course that focuses on the principles, development and utilization of alternative forms of assessment in measuring authentic learning. It emphasizes on how to assess process-and product-oriented learning outcomes as well as affective learning. Students will experience how to develop rubrics and other assessment tools performance-based and product-based assessment. *Pre-req: EDUC063A; Co-req: None*

EDUC263 - Building and Enhancing New Literacies Across the Curriculum　　　　3 units

This course introduces the concepts of new literacies in the 21st century as an evolving social phenomena and shared cultural practices across learning areas. The 21st century literacies shall include (a) globalization and multi-cultural literacy, (b) social literacy, (c) media literacy, (d) financial literacy, (e) cyber literacy/digital literacy, (f) eco-literacy and (g) arts and creativity literacy. Field based-interdisciplinary explorations and other teaching strategies shall be used in this course. *Pre-req: None; Co-req: None*

EDUC273 - Technology for Teaching and Learning 1　　　　3 units

This is an introductory course that explores basic knowledge and skills and values in the use of technology for teaching and learning. It includes ICT policies and safety issues, media and technology in various content areas, learning theories and principles in the use and design of learning lessons, teaching- learning experiences and assessment tasks that utilize appropriate traditional and innovative technologies with social, ethical and legal responsibility in the use of technology tools and resources. *Pre-req: None; Co-req: None*

EDUC283 - Facilitating Learner Centered Teaching　　　　3 units

This course explores the fundamental principles, processes and practices anchored on learner centeredness and other educational psychologies as these apply to facilitate various teaching-learning delivery modes to enhance learning. *Pre-req: None; Co-req: None*

EDUC303 - The Teacher and the School Curriculum　　　　3 units

This course includes the fundamental concepts and principles in curriculum and curriculum development as a foundation to engage prospective teachers as **c**urricularists. The more active the role of the teacher in planning, implementing and evaluating school-curriculum as well as in managing school curriculum change vis-à-vis various context of teaching-learning and curricular reforms shall be given emphasis. *Pre-req: None; Co-req: None*

C. EXPERIENTIAL LEARNING

FS1 - Field Study 1 (Observation of Teaching Learning in Actual School Environment)　　　　3 units

This is the first experiential course which will immerse a future teacher to actual classroom situation and learning environment where direct observation of teaching learning episodes that focuses on the application of educational theories learned in content and pedagogy courses will be made. Observations of the learner's behavior, motivation, strategies of teaching, classroom management, and assessment in learning among others shall be given emphasis. A portfolio shall be required in the course. *Pre-req: EDUC-ST006, EDUC233; Co-req: FS2*

FS2 - Field Study 2 (Participation and Teaching Assistantship)　　　　3 units

This course is a continuation of FS1 **(**Observation of Teaching Learning in Actual School Environment). It is school based and allows a re-service student to participate and assist in a limited actual teaching- learning activities that relate to assessment of learning, preparation of instructional materials, preparation of the bulletin boards, and other routines in the classroom. A portfolio which will contain sample lesson or learning plans and demonstration teaching of at least one subject content area will be required. *Pre-req: EDUC233; Co-req: FS1*

EDUC-PRC6 - Practice Teaching (Off-campus/600 hrs)   **6 units**

The course is the culminating phase of the teacher education degree program. It is a one semester full time teaching internship in basic education schools outside the Colegio (off-campus) using a clinical approach under the mentorship of a cooperating teacher. A teaching portfolio shall be required at the end of the course. *Pre-req: FS1, FS2; Co-req: None*

D. ADDITIONAL COURSES

EDUC-RESA - Educational Research I   **3 units**

The course is a seminar-workshop type that deals with the rudiments of academic/thesis writing. The end product is a thesis proposal which would undergo defense by panel of experts in Education. BEED - *Pre-req: ELEM193; Co-req: None, BSE-ENG - Pre-req: ENED303; Co-req: None, BSE-Math - Pre-req: MTED263; Co-req: None*

EDUC-RESB - Educational Research II   **3 units**

The course is the continuation of EDUC-RESA (Educational Research I). The end product is a full-blown thesis that should undergo final defense by panel of experts in Education focusing on the validity and reliability of the findings of the study. *Pre-req: EDUC-RESA; Co-req: None*

EDUC-ST006 – Special Topics   **3 units**

This course focuses on some problems, issues, and trends related to the field of education. This allows students to have a wider knowledge and perspective of the teaching profession through attendance and conduct of seminars on the latest trends in education. It explores emerging concern, new directions, and reforms through examining the critical issues and problems that brought about the different paradigm shifts and transformations currently found in the aims, processes, and delivery of education. This course also includes the conduct of review sessions to help the Education students of Letran Calamba prepare for their Licensure Examinations for Teachers (LET) in the future. *Pre-req: None; Co-req: FS1 & FS2*

III. PROFESSIONAL COURSES

A. SECONDARY EDUCATION MAJOR IN ENGLISH PROFESSIONAL COURSES

ENED023B - Introduction to Linguistics   **3 units**

The course provides an overview of linguistics as a discipline, its development, levels of structure, and its significance to English language teaching. *Pre-req: None; Co-req: ENED233*

ENED053B - Campus Journalism   **3 units**

The course develops skills and applies principles and strategies in writing for traditional and new media. Pre-req: None; Co-req: ENED253

ENED223 - Language, Culture, and Society
3 units

The course explores the inextricable link between and among language, culture, and society and its implications to the development of English as a glocal language and the ways by which it is learned and taught. *Pre-req: None; Co-req: None*

ENED233 - Structures of English
3 units

The course develops the ability to use phonological, lexical, syntactic, and semantic structures of English with ease and explain the form, meaning, and use of their elements. *Pre-req: None; Co-req: ENED023B*

ENED243 - Principles and Theories of Language Acquisition and Learning
3 units

The course examines principles, factors, and contexts of language acquisition and learning based on theories and research findings. *Pre-req: None; Co-req: ENED253*

ENED253 - Language Programs and Policies in Multilingual Societies
3 units

The course provides a survey of local and international basic education language programs and policies that account for issues and considerations relevant to the engagement of teachers in school settings. *Pre-req: None; Co-req: EDUC243, ENED053B*

ENED263 - Language Learning Materials Development
3 units

The course equips the students with skills to develop language learning materials suitable to the teaching and learning of a specific language objective. It also develops the application of the principles, methods, and approaches of translation and adaptation of various texts. *Pre-req: ENED-ELEC2; Co-req: None*

ENED273 - Teaching and Assessment of Literature Studies
3 units

The course exposes the basic pedagogical theories, teaching strategies, philosophical influences and movements in literature as they affect teaching. It also aims to develop the ability of the students to construct both discrete and integrative listening, speaking, reading, writing, and literature tests to assess the language proficiency and achievement and literary competence. *Pre-req: ENED293; Co-req: None*

ENED283 - Teaching and Assessment of the Macroskills
3 units

The course teaches the macroskills taking into account their nature, theoretical underpinnings, the competencies to be developed and productive teaching-learning strategies. It also focuses on the development and utilization of assessment tools for macroskills. *Pre-req: None; Co-req: ENED293*

ENED293 - Teaching and Assessment of Grammar
3 units

The course engages learners in understanding the distinctions between and among four types of grammar: functional, descriptive, prescriptive, and pedagogic. Aside from the emphasis on how teaching and assessment vary considering the four types, the course also provides opportunities to discover the role of grammar in achieving communicative competence. *Pre-req: None; Co-req: ENED283*

ENED303 - Language Education Research
3 units

The course develops skills in applying principles and approaches in research to find answers to questions in language learning and teaching. *Pre-req: None; Co-req: ENED-ELEC2*

ENED313 - Speech and Theater Art   3 units

The course examines the process or oral communications and the various forms of speech arts from public speaking and group discussions to debate, oral interpretation and dramatics. *Pre-req: None; Co-req: LIT213*

ENED323 - Technical Writing   3 units

The course develops technical and scientific writing skills across disciplines. *Pre-req: ENED-ELEC2; Co-req: None*

ENED333-23 Technology for Teaching and Learning 2 (Technology in Language Education)   3 units

The course focuses on the application, design, production, utilization, and evaluation of Information and Communications Technology (ICT) materials for teaching and learning in Secondary Language (English and Filipino) Education Programs. The major requirement for this course is an ICT-integrated and Project-based Learning Plan aligned to the K to 12 curriculum. All the learning activities and course requirements will revolve around the student-teacher developed Learning Plan. *Pre-req: EDUC273; Co-req: None*

LIT063 - Mythology and Folklore   3 units

The course explores mythology and folklore from different countries to gain insights into people's origin, desires, fears, instincts, and needs. *Pre-req: LIT103; Co-req: None*

LIT083 - Survey of Afro-Asian Literature   3 units

The course surveys selected literary texts from Asia and Africa, particularly India, China, Japan, the countries in the southeast region in Asia, and the African nations south of the Sahara along socio-historical, philosophical, and literary underpinnings. *Pre-req: LIT103; Co-req: None*

LIT093 - Survey of English and American Literature   3 units

The course engages students in a historical survey of selected literary works produced by understanding English and American literatures from its beginnings to the 21st century. *Pre-req: LIT083; Co-req: LIT123*

LIT103 - Survey of Philippine Literature in English   3 units

The course enables students to analyze the growth and development of Philippine Literature in English from 1900 to the present along socio-historical events as shown in representative works. *Pre-req: None; Co-req: None*

LIT113 - Children and Adolescent Literature   3 units

The course provides a survey of the categories and types of the world's literature for children and adolescents. *Pre-req: None; Co-req: None*

LIT123 - Contemporary, Popular, and Emergent Literature   3 units

The course focuses on critical issues in contemporary and popular literature and genres. *Pre-req: None; Co-req: LIT093*

LIT213 - Literary Criticism   **3 units**
The course provides students with opportunities to study the basic approaches to literary theory and criticism and their application to selected literary works. *Pre-req: None; Co-req: ENED313*

B. ELECTIVE COURSES

ENED-ELEC1 - English for Specific Purposes   **3 units**
The course aims to sharpen the language skills of the students through the use of discipline-based materials for development of academic proficiency. *Pre-req: ENED233; Co-req: None*

ENED-ELEC2 - Stylistic and Discourse Analysis   **3 units**
The course develops the students' ability to use the conceptual frameworks and schemes of linguistics in literature in understanding literary language. It also aims to develop learners' critical thinking about how discourses are used in context and how they reflect and shape the world. The course draws upon students' prior understanding of basic linguistic concepts and provides learners with analytical tools and strategies to explore features of written and spoken texts. Students have the opportunity to apply theories and their analytical skills in a wide range of contexts and text types. *Pre-req: ENED-ELEC1; Co-req: ENED303*

PROGRAM DESCRIPTION

Bachelor of Secondary Education Major in Mathematics (BSEd Math) is a four-year program that provides aspiring secondary school teachers the academic and practical preparation they need to be equipped with the 21st century skills and 5th Industrial revolution. The program provides an in-depth understanding and application to different branches of Mathematics such as Algebra, Geometry, Trigonometry, Calculus, Statistics and other higher Mathematics particular to different secondary school levels. Its curriculum is designed with a variety of elements, including fundamental general education, subject-matter proficiency, technology-based teaching and learning skills, moral and professional guiding principles, and empirical literacy skills suited for the teaching level. The curriculum combines theory and practice, and its culmination is an extensive teaching internship that molds its students into becoming well-equipped and highly trained teachers with the assistance of experienced educators who have an immense amount of professional expertise.

The BSEd Math program aims to address the demand for competent, competitive, and professional Filipino educators in Philippine secondary schools. BSEd Math program graduates are prepared to take, pass the Licensure Examination for Teachers (LET), and earn their professional licenses from the Professional Regulation Commission (PRC)

Program Educational Objectives

Three to five years after graduation, the Bachelor of Secondary Education major in Mathematics (BSEd Math) alumni shall:
1. Exhibit high motivation and competency in specializing in the content and pedagogy in secondary education;
2. Manifest basic and higher level literacy, communication, numeracy, critical thinking, and learning skills needed for higher learning;
3. Demonstrate and practice the professional and ethical requirements of the teaching profession;
4. Facilitate learning of diverse types of learners in diverse types of learning environment;
5. Create and innovate teaching approaches, take informed risks in trying out these innovative approaches, and evaluate the effectiveness of such approaches in improving student learning;
6. Engage in continuing professional development by pursuing post-graduate studies and building professional links with colleagues to enrich teaching practice;
7. Maintain stature and behavior that upholds the dignity of teaching in addition to being competent and dedicated Filipino Christian teachers; and
8. Assume leadership role in one's career, profession, and community.

Program Outcomes and Performance Indicators

Upon completion of Bachelor of Secondary Education major in Mathematics (BSEd Math), the graduate, who is trained in a culture of conscience and excellence with Filipino, Dominican, and Christian in orientation, must be able to:

Program Outcomes	Performance Indicators
1. Articulate and discuss the latest developments in the specific field of practice	• Engage in continual learning in one's specialization
2. Effectively communicate orally and in writing using English, Filipino, mother tongue language, and an appropriate Foreign Language required by the industry	• Express oneself clearly in verbal or written forms the updates in one's career or vocation • Convey positive Filipino values in one's decisions and actions • Defend satisfactorily his/her thesis from a panel of experts

3. Work effectively and independently in multi-disciplinary and multi-cultural teams	• Perform well as a team leader or member in any kind of group project or activity • Perform independently and cooperatively to accomplish worthwhile goals
4. Preserve and promote Filipino historical and cultural heritage (based on RA No. 7722)	• Demonstrate responsible Filipino citizenship in local, national or international communities
5. Participate in various types of employment, development activities, and public discourses, particularly in response to the needs of the communities one serves	• Plan and take action for the welfare of the community • Continually engage oneself in development projects and activities that address the community needs
6. Manifest strong commitment and conviction to the Christian and Dominican teachings and philosophy in thoughts, words, and deeds	• Observe the Dominican values of study, prayer, community, and service • Uphold ecological consciousness and engage in environmental stewardship • Participate actively in the community's spiritual and social advocacy or extension program
7. Articulate the rootedness of education in philosophical, socio-cultural, historical, psychological, and political contexts	• Discuss in-depth the interplay of various contexts in education

8. Demonstrate mastery of subject matter/discipline	• Explain subject matter content clearly, accurately and comprehensively • Relate content with past and future lessons • Provide example from real life to make learning meaningful • Integrate recent developments in education and in the specific field to enrich learning experiences
9. Facilitate learning using a wide range of teaching methodologies and delivery modes appropriate to specific learners and their environments	• Utilize appropriate teaching-learning methods and technology for specific subject matter content
10. Develop innovative curricula, instructional plans, teaching approaches, and resources for diverse learners	• Design innovative strategies that heighten students' engagement in the classroom • Prepare instructional plans utilizing various approaches, methods, and techniques • Conduct teaching demonstrations to show effective use different approaches, methods, and techniques
11. Apply skills in the development and utilization of ICT to promote quality, relevant, and sustainable educational practices	• Utilize appropriate pedagogy and use of technology for the different content areas • Initiate advocacy campaigns towards the attainment of sustainable development goals through technology • Integrate the environmental principles in learning and teaching through ICT • Use context appropriate technology in teaching-learning English vis-à-vis 21st Century learning •

	- Use tools and technology to enhance learning and teaching - Utilize appropriate technologies to achieve learning outcomes
12. Demonstrate a variety of thinking skills in planning, monitoring, assessing, and reporting learning processes and outcomes	- Employ effective teaching techniques for diverse types of learners in varied learning conditions - Design and utilize a variety of appropriate assessment techniques to monitor and evaluate learning - Create and utilize learning experiences in the classrooms to develop learners' skills in discovery learning, problem learning, and critical thinking - Produce assessment materials to measure students' performance
13. Practice professional and ethical teaching standards sensitive to the changing local, national, and global realities	- Maintain stature and behavior that uphold the Professional Code of Ethics - Immerse in an actual working environment in industry
14. Pursue lifelong learning for personal and professional growth through varied experiential and field-based opportunities	- Access information from local and foreign media about educational issues to enhance knowledge - Participate in research to improve the teaching and learning of the different courses - Join seminars/trainings/workshops and related activities to improve the teaching and learning of the different courses

	- Pursue personal growth and professional development through attendance in seminar-workshops, participation in demo-fests, conducting action research and other education related activities - Participate actively in the school's community outreach activities - Keep abreast with educational issues, trends and practices vis-à-vis local and global context to provide relevant learning experiences. - Conduct relevant research that contributes to current studies in Education - Design community-based activities to help learners achieve an integrated view of social development - Show the connections between mathematical concepts that are related to one another - Provide examples to illustrate the application of mathematical concepts and procedures
15. Exhibit competence in mathematical concepts and procedures	- Explain and illustrate clearly, accurately, and comprehensively the basic mathematical concepts, using relevant examples as needed - Demonstrate in detail basic mathematics procedures

16. Exhibit proficiency in relating mathematics to other curricular areas	• Create a curriculum guide that shows how mathematics can be integrated with other curricular areas • Identify teaching activities which support the implementation of the curriculum guide • Develop and utilize instructional materials that support the integration of mathematics with other curricular areas • Utilize appropriate technologies to achieve learning outcomes
17. Manifest meaningful and comprehensive pedagogical content knowledge (PCK) of mathematics	• Demonstrate skills in various methods of learning in mathematics such as, conducting investigations, modeling, and doing research • Create and utilize learning experiences in the classroom which develop the learners' skills in discovery learning, problem solving, and critical thinking
18. Demonstrate competence in designing, constructing and utilizing different forms of assessment in mathematics	• Design and utilize varied assessments tools in mathematics, including alternative forms of assessment • Analyze assessment results and use these to improve learning and teaching • Provide timely feedback of assessment results to students
19. Demonstrate proficiency in problem-solving by solving and creating routine and non-routine problems with different levels of complexity	• Demonstrate skills in various problem solving heuristics • Select suitable examples to explain the various problem solving heuristics

	• Manifest creativity and critical thinking when selecting examples and problems to be used in the classroom and in the assessment of students' learning • Use varied resources for selecting and creating problems to develop the students' problem solving skills
20. Use effectively appropriate approaches, methods, and techniques in teaching mathematics including technological tools	• Demonstrate knowledge and skills in varied approaches and methods of teaching mathematics • Manifest discretion when selecting in teaching particular lessons • Utilize variety of student-centered approaches and methods in the classrooms • Demonstrate skills in the use of common mathematics software for teaching and learning mathematical concepts e.g. Graphmatica, Geogebra, and Geometer's Sketchpad • Develop and use materials that guide the students in using a mathematical software for discovering and learning mathematical concepts
21. Appreciate mathematics as an opportunity for creative work, moments of enlightenment, discovery and gaining insights of the world	• Model in class such mathematical attitudes as delight after having found the solution to a problem or a sense of wonder at how certain mathematical concepts evolved • Develop lessons that can help students appreciate the use of mathematics in daily life

BACHELOR OF SECONDARY EDUCATION MAJOR IN MATHEMATICS
GENERAL SUMMARY OF COURSES

I. General Education Courses

A. Core Courses   24
GEC003	Understanding the Self	3
GEC013	Science, Technology, and Society	3
GEC023	Mga Babasahin Hinggil sa Kasaysayan ng Pilipinas	3
GEC033	Mathematics in the Modern World	3
GEC043	The Contemporary World	3
GEC053	Art Appreciation	3
GEC063	Purposive Communication	3
GEC073	Ethics	3

B. CHED Mandated Courses   26
a. Rizal Course
RZL023	Buhay at Mga Akda ni Rizal	3

b. Physical Education Courses
PATHFIT1002	Movement Competency Training	2
PATHFIT2022	Exercise Based Fitness Activities	2
PATHFIT3032	Individual/Dual Sports	2
PATHFIT4042	Contemporary Dance	2

c. National Service Training Program
NSTP1-18	National Service Training Program 1	3
NSTP2-18	National Service Training Program 2	3

d. GENED Elective Courses
GECELEC1	Living in the IT Era	3
GECELEC2	The Entrepreneurial Mind	3
GECELEC3	Philippine Pop Culture	3

C. Institutional Mandated Courses   18
a. Religious Education Courses
RELED053	The Catholic Christian Faith	3
RELED063	Contemporary Issues in Christian Marriage	3
RELED073	Contemporary Issues About Church and Human Society with Immersion	3
RELED083	Christian Ethics	3

b. Letran Quality Enrichment Courses
LQEC23-013	Letran Quality Enhancement Course I (Letran Calamba Identity and 21st Century Learning	3
LQEC23-023	Letran Quality Enhancement Course II (21st Century Literacy Skills & Life Skills and	3

II. Professional Education Courses   42
EDUC233	The Teaching Profession	3
EDUC253	The Child and Adolescent Learners and Learning Principles	3
EDUC293	Foundation of Special and Inclusive Education	3
EDUC313	The Teacher and the Community, School Culture and Organizational Leadership	3

B. Pedagogical Content Knowledge
EDUC063A	Assessment in Learning 1	3
EDUC063B	Assessment in Learning 2	3

	EDUC263	Building and Enhancing New Literacies Across the Curriculum	3
	EDUC273	Technology for Teaching and Learning 1	3
	EDUC283	Facilitating Learner Centered Teaching	3
	EDUC303	The Teacher and the School Curriculum	3

C. Experiential Learning

	FS1	Field Study 1 (Observation of Teaching Learning in Actual School Environment)	3
	FS2	Field Study 2 (Participation and Teaching Assistantship)	3
	EDUC-PRC6	Practice Teaching (Off-campus/600 hrs)	6

III. Major Courses   63

	MTED003	History of Math	3
	MTED013B	Plane and Solid Geometry	3
	MTED023B	Trigonometry	3
	MTED033B	Mathematics of Investment	3
	MTED043D	Modern Geometry	3
	MTED073B	Linear Algebra	3
	MTED133B	Number Theory	3
	MTED143B	Abstract Algebra	3
	MTED173	College and Advanced Algebra	3
	MTED183	Logic and Set Theory	3
	MTED193	Elementary Statistics and Probability	3
	MTED204	Calculus 1 with Analytic Geometry	4
	MTED214	Calculus 2	4
	MTED223	Advanced Statistics	3
	MTED233	Problem Solving, Mathematical Investigation & Modelling	3
	MTED243	Calculus 3	3
	MTED253	Principles & Strategies in Teaching Mathematics	3
	MTED263	Research in Mathematics	3
	MTED293	Assessment and Evaluation in Mathematics	3
	MTED304	Technology for Teaching and Learning 2 (Instrumentation and Technology in Mathematics)	4

IV. Additional Courses   12

	EDUC-RESA	Educational Research I	3
	EDUC-RESB	Educational Research II	3
	EDUC-ST006	Special Topics	6

TOTAL UNITS   185

BACHELOR OF SECONDARY EDUCATION MAJOR IN MATHEMATICS
Curriculum Year 2023-2024

Course Code	Course Title	Lec Units	Lab Units	Lab Hrs	TOTAL	Pre-requisites/ Co-requisites
FIRST YEAR, First Semester						
EDUC253	The Child and Adolescent Learners and Learning Principles	3			3	
EDUC293	Foundation of Special and Inclusive Education	3			3	
EDUC303	The Teacher and the School Curriculum	3			3	
GEC003	Understanding the Self	3			3	
GEC023	Mga Babasahin Hinggil sa Kasaysayan ng Pilipinas	3			3	
GEC033	Mathematics in the Modern World	3			3	
LQEC23-013	Letran Quality Enhancement Course I (Letran Calamba Identity and 21st Century Learning Skills)	3			3	
MTED003	History of Math	3			3	
RELED053	The Catholic Christian Faith	3			3	
	Total	**27**	**0**	**0**	**27**	
FIRST YEAR, Second Semester						
EDUC263	Building and Enhancing New Literacies Across the Curriculum	3			3	
EDUC273	Technology for Teaching and Learning 1	3			3	
EDUC283	Facilitating Learner Centered Teaching	3			3	
GEC053	Art Appreciation	3			3	
GEC063	Purposive Communication	3			3	
LQEC23-023	Letran Quality Enhancement Course II (21st Century Literacy Skills & Life Skills and Sustainability)	3			3	LQEC23-013
MTED173	College and Advanced Algebra	3			3	GEC033
NSTP1-18	National Service Training Program 1	3			3	
PATHFIT1002	Movement Competency Training	2			2	
RELED063	Contemporary Issues in Christian Marriage	3			3	RELED053
	Total	**29**	**0**	**0**	**29**	
SECOND YEAR, First Semester						
EDUC063A	Assessment in Learning 1	3			3	
MTED013B	Plane and Solid Geometry	3			3	co-req MTED023B
MTED023B	Trigonometry	3			3	MTED173, co-req MTED013B
MTED033B	Mathematics of Investment	3			3	MTED003
MTED304	Technology for Teaching and Learning 2 (Instrumentation and Technology in Mathematics)	4			4	EDUC273
NSTP2-18	National Service Training Program 2	3			3	NSTP1-18

BACHELOR OF SECONDARY EDUCATION MAJOR IN MATHEMATICS
Curriculum Year 2023-2024

Course Code	Course Title	Lec Units	Lab Units	Lab Hrs	TOTAL	Pre-requisites/ Co-requisites
PATHFIT2022	Exercise Based Fitness Activities	2			2	PATHFIT1002
RELED083	Christian Ethics	3			3	RELED053
RZL023	Buhay at Gawa ni Rizal	3			3	
	Total	27	0	0	27	

SECOND YEAR, Second Semester

Course Code	Course Title	Lec Units	Lab Units	Lab Hrs	TOTAL	Pre-requisites/ Co-requisites
EDUC063B	Assessment in Learning 2	3			3	EDUC063A
GEC013	Science, Technology, and Society	3			3	
GECELEC1	Living in the IT Era	3			3	
MTED043D	Modern Geometry	3			3	MTED013B, MTED023B
MTED073B	Linear Algebra	3			3	MTED173
MTED193	Elementary Statistics and Probability	3			3	MTED173
MTED253	Principles & Strategies in Teaching Mathematics	3			3	MTED304
MTED204	Calculus 1 with Analytic Geometry	4			4	MTED173, MTED013B, MTED023B
PATHFIT3032	Individual/Dual Sports	2			2	PATHFIT1002, PATHFIT2022
	Total	27	0	0	27	

THIRD YEAR, First Semester

Course Code	Course Title	Lec Units	Lab Units	Lab Hrs	TOTAL	Pre-requisites/ Co-requisites
GEC043	The Contemporary World	3			3	
GECELEC2	The Entrepreneurial Mind	3			3	
MTED133B	Number Theory	3			3	MTED173, co-req MTED183
MTED183	Logic and Set Theory	3			3	co-req MTED133B
MTED214	Calculus 2	4			4	MTED204
MTED223	Advanced Statistics	3			3	MTED193
MTED263	Research in Mathematics	3			3	MTED253
PATHFIT4042	Contemporary Dance	2			2	PATHFIT1002, PATHFIT2022
RELED073	Society with Immersion	3			3	RELED053
	Total	27	0	0	27	

THIRD YEAR, Second Semester

Course Code	Course Title	Lec Units	Lab Units	Lab Hrs	TOTAL	Pre-requisites/ Co-requisites
EDUC233	The Teaching Profession	3			3	
EDUC313	The Teacher and the Community, School Culture and Organizational Leadership	3			3	
EDUC-RESA	Educational Research I	3			3	MTED263
GEC073	Ethics	3			3	
GECELEC3	Philippine Pop Culture	3			3	
MTED143B	Abstract Algebra	3			3	MTED133B, MTED183

Code	Course	Lec	Lab		Units	Pre-requisite
MTED233	Problem Solving, Mathematical Investigation &	3			3	MTED173, MTED023B, MTED013B
MTED243	Calculus 3	3			3	MTED214
MTED293	Assessment and Evaluation in Mathematics	3			3	MTED253
	Total	27	0	0	27	

FOURTH YEAR, First Semester

Code	Course	Lec	Lab		Units	Pre-requisite
EDUC-RESB	Educational Research II	3			3	EDUC-RESA
EDUC-ST006	Special Topics	6			6	co-req FS1, FS2
FS1	Field Study 1 (Observation of Teaching Learning in Actual School Environment)	3			3	EDUC233, co-req FS2
FS2	Field Study 2 (Participation and Teaching Assistantship)	3			3	EDUC233, co-req FS1
	Total	15	0	0	15	

FOURTH YEAR, Second Semester

Code	Course	Lec	Lab		Units	Pre-requisite
EDUC-PRC6	*Practice Teaching (Off-campus/600 hrs)	6			6	FS1, FS2
	Total	6	0	0	6	
	GRAND TOTAL	185	0	0	185	

*Practicum - No simultaneous enrollment is allowed.

jrd/01302023

COURSE DESCRIPTION

I. GENERAL EDUCATION COURSES

A. CORE COURSES

GEC003 - Understanding the Self   **3 units**
The course discusses the nature of identity, its factors and forces that affect the development and maintenance of personal identity. It is intended to facilitate the exploration of the issues and concerns regarding self and identity to arrive at a better understanding of one's self. It strives to meet this goal by stressing the integration of the personal with the academic — contextualizing matters discussed in the classroom and in the everyday experiences of students — making for better learning, generating a new appreciation for the learning process, and developing a more critical and reflective attitude while enabling them to manage and improve their selves to attain a better quality of life.

This also includes mandatory topics on Family Planning and Population Education. *Pre-req: None; Co-req: None*

GEC013 - Science, Technology, and Society   **3 units**
The course deals with interactions between science and technology and social cultural, political, and economic contexts, which shape and are shaped by them.

The interdisciplinary course engages students to confront the realities brought about by science and technology in society. Such realities pervade the personal, the public, and the global aspects of our living and are integral to human development. Scientific knowledge and technological development happen in the context of society with all its socio-political, cultural, economic, and philosophical underpinnings at play. This course seeks to instill reflective knowledge in the students that they are able to live the good life and display ethical decision making in the face of scientific and technological advancement.

This also includes discussion of climate change and environmental awareness as well as the implementation of the different environmental protection laws. *Pre-req: None; Co-req: None*

GEC023 - Mga Babasahin Hinggil sa Kasaysayan ng Pilipinas   **3 units**
Ang kursong ito ay tumatalakay sa mga piling primaryang sanggunian ukol sa iba't ibang yugto ng kasaysayan ng Pilipinas, pagsusuri at interpretasyon. Isasama din ang pagtalakay sa konstitusyon ng Pilipinas simula sa taong 1899 hanggang sa taong 1987. Ganun din ang pagtalakay sa repormang agraryo. Gayundin ang pagtalakay sa pagbubuwis bilang instrumento ng pamahalaan. Ito ay may kaugnayan sa tibay ng pagbubuwis bilang isa sa tatlong kapangyarihan ng pamahalaan na nakasaad sa Saligang Batas taong 1987. Pre-req: None; Co-req: None

GEC033 - Mathematics in the Modern World   **3 units**
The course discusses the nature of Mathematics, appreciation of its practical, intellectual, and aesthetic dimensions, and application of mathematical tools in daily life. *Pre-req: None; Co-req: None*

GEC043 - The Contemporary World
3 units

The course discusses globalization and its impact on individuals, communities and nations, challenges and responses. It introduces students to the contemporary world by examining the multifaceted phenomenon of globalization. Using the various disciplines of the social sciences, it examines the economic, social, political, technological, and other transformations that have created an increasing awareness of the interconnectedness of people and places around the globe. It provides an overview of the various debates in global governance, development, and sustainability. Beyond exposing the student to the world outside the Philippines, it seeks to inculcate a sense of global citizenship and global ethical responsibility.

This also includes mandatory topics on population education in the context of population and demography. *Pre-req: None; Co-req: None*

GEC053 - Art Appreciation
3 units

The course discusses the nature, function and appreciation of the arts in contemporary society. It intends to develop students' ability to appreciate, analyze, and critique works of art. Through interdisciplinary and multimodal approaches, this course equips students with a broad knowledge of the practical, historical, philosophical, and social relevance of the arts. This will hone their ability to articulate their understanding of the arts. It will also develop students' competency in researching and curating arts as well as conceptualizing, mounting, and evaluating art productions. The course aims to develop students' genuine appreciation for Philippine arts by providing them opportunities to explore the diversity and richness and their rootedness in Filipino culture. *Pre-req: None; Co-req: None*

GEC063 - Purposive Communication
3 units

The course discusses writing, speaking and presenting to different audiences and for various purposes. It develops students' communicative competence and enhances their cultural and intercultural awareness through multimodal tasks that provide them opportunities for communicating effectively and appropriately to a multicultural audience in a local or global context. It equips students with tools for critical evaluation of a variety of texts and focuses on the power of language and the impact of images to emphasize the importance of conveying messages responsibly. *Pre-req: None; Co-req: None*

GEC073 – Ethics
3 units

This course covers the context and tenets of ethical behavior in modern society including how individuals and communities interact with the environment and other common resources. It helps one to enhance their grasp of ethics and moral reasoning through the study of numerous theoretical viewpoints and moral experiences that make up so much of the core of daily life. By the end of the course, students should be able to articulate why and how people are seen as moral beings existing in a moral universe with a responsibility to protect themselves, one another, and the environment for everyone. *Pre-req: None; Co-req: None*

B. GENERAL EDUCATION ELECTIVE COURSES

GECELEC1 - Living in the IT Era   3 units
This general education elective course discusses how information technology shaped that way of life in the modern era. It discusses the science, culture and ethics information technology as well as how it affects contemporary life and interpersonal interactions and the way it may be used to promote one's social, professional, and personal goals. *Pre-req: None; Co-req: None*

GECELEC2 - The Entrepreneurial Mind   3 units
This general education elective course focuses on the nature and fundamentals of entrepreneurship as well as its societal responsibilities and repercussions. It is designed to assist students comprehend the business environment and encourage individuals adopt and innovative mindset. *Pre-req: None; Co-req: None*

GECELEC3 - Philippine Popular Culture   3 units
This general education elective course focuses on the emerging potential and expectation of mass audiences, markets and mass media, as well as their social, economic, and political settings, in the field of art, music, and literature. By the completion the course, students should be able to demonstrate their appreciation of traditional and modern cultural expressions of as well as identify, analyze and develop trends in Philippine culture that have been inspired by various internal and external influences. *Pre-req: None; Co-req: None*

C. CHED MANDATORY COURSES

RZL023 - Buhay at Mga Akda ni Rizal   3 units
Ito'y isang pag-aaral sa buhay at gawa ni Gat. Jose Rizal at ang kaugnayan at kahalagahan sa nilalaman ng pangkasaysayang pagsulong ng lipunang Pilipino. Gamit ang istratehiyang 'Dambana" kung saan ang mag-aaral ay maglalaan ng panahon sa Bahay-Rizal sa Calamba, ang mag-aaral ay magiging kabahagi ng Rizal Shrine staff sa edukasyong pangkasaysayan ng mga panauhin sa Bahay-Rizal. *Pre-req: None; Co-req: None*

D. INSTITUTIONAL MANDATED COURSES

LQEC23-013 - Letran Quality Enrichment Course I (Letran Calamba Identity and 21st Century Learning Skills) 3 units
LQEC 1 is an enhancement course that is designed to introduce the identity of Colegio de San Juan de Letran Calamba including its history, Dominican spirituality, mission, vision, quality objectives, policies , processes and services. It also introduces the "Four Cs" of 21st Century Learning: Critical Thinking, Creativity, Collaboration and Communication that aims to enhance students' knowledge and awareness of the essential communication concepts and establish deep comprehension of the processes in a creative manner.
Furthermore, it helps the learners to formulate logical and well-thought-out reasoned judgments and promote active engagement with others to achieve a common goal. *Pre-req: None; Co-req: None*

LQEC23-023 - Letran Quality Enrichment Course II (21st Century Literacy Skills & Life Skills and Sustainability) 3 units
LQEC 2 is an enhancement course that is designed to provide basic understanding about leadership, flexibility, initiative, social skills and productivity. It also introduces digital literacy which focuses on fundamental understanding of media, technology, and information as tools for communication and the advancement of people and communities.
Moreover, the course also introduces the concept of Environment, Social, and Governance (ESG) which determines an organization's commitment to sustainability. All of these are necessary to help the learners become competitively employable in the future of work. *Pre-req: LQEC23-013; Co-req: None*

RELED053 - The Catholic Christian Faith 3 units
This course deals with the basic Catholic Christian Doctrine. It highlights the 12 articles of faith in the Apostles Creed, as well as the Sacred Scripture. Thus it guides the students to a life of truth, fidelity and worship to God. *Pre-req: None; Co-req: None*

RELED063 - Contemporary Issues in Christian Marriage 3 units
Contemporary Issues in Christian Marriage is a three unit academic subject. The emphasis of the course is on Marriage and Family presented as a vocation and a sacrament. The study prepares the students for the reception of the sacrament and achievement of a better outlook on the realities and complexities of the married state and family life. *Pre-req: RELED053; Co-req: None*

RELED073 - Contemporary Issues About Church and Human Society with Immersion 3 units
Contemporary Issues About Church and Human Society with Immersion is a three unit academic subject. This course studies the seven themes of the social teachings of the Catholic Church. It also tackles contemporary social issues which hamper the development of our country. An integral part of the course is Makipamuhay, a learning strategy that allows students to experience direct contact with the oppressed in society specifically the rural poor and leads them to develop personal as well as communal witnessing to authentic Christian faith. *Pre-req: RELED053; Co-req: None*

RELED083 - Christian Ethics · 3 units
This course presents the foundations and fundamentals of Christian Ethics and their application to issues and concerns related to the Ten Commandments. *Pre-req: RELED053; Co-req: None*

E. PHYSICAL EDUCATION COURSES

PATHFIT1002 - Movement Competency Training · 2 units
This course provides training in different movement and core engagement in conjunction with principles of healthy and physical active life. Students will be able to adopt and transfer the movement competency in different contexts. *Pre-req: None; Co-req: None*

PATHFIT2022 - Exercise-Based Fitness · 2 units
This course provides experiences in core stability, strength, and mobility training. It includes goal setting exercise progression and regression and periodic assessment for the development of various fitness component. *Pre-req: PATHFIT1002; Co-req: None*

PATHFIT3032 - Individual/Dual Sports · 2 units
This course puts emphasis on gaining basic knowledge of individual/dual sports, fitness and lifetime activities. It also includes different kinds of individual/dual sports. Students will learn the skills and game strategies for each sport as well as their historical background and terminology. Activities promote participation in physical activity to achieve good health and wellness. *Pre-req: PATHFIT1002, PATHFIT2022; Co-req: None*

PATHFIT4042 - Contemporary Dance · 2 units
This course provides the students the foundations of contemporary dance technique and execution. It focuses on various movement concepts at each level, particularly designed solos, and the integration of organized improvisation to provide students, the opportunity to explore and come up with their own movement language. It encourages creativity by fusing elements of jazz, modern dance, lyrical dance, classical ballet, and other disciplines. *Pre-req: PATHFIT1002, PATHFIT2022; Co-req: None*

F. NATIONAL SERVICE TRAINING PROGRAM

NSTP1-18 - National Service Training Program 1 · 3 units
The National Service Training Program 1 is a curricular offering consisting of lectures and trainings on citizenship, values education, environment and drug education, disaster management, transformational leadership, dimensions of development and literacy and numeracy skills aimed to empower the youth as potential community leaders toward national development. *Pre-req: None; Co-req: None*

NSTP2-18 - National Service Training Program 2 · 3 units
The National Service Training Program 2 is a sequel to NSTP1. This course is designed to equip the students with the fundamentals of project identifications, planning implementation and evaluation which include but is not limited to lecture and training on social mobilization, community development, and community service. The students are required to undergo the process of community immersion in pursuit of applying the concepts learned in contributing to the general welfare of in the Colegio's partner communities. *Pre-req: NSTP1-18; Co-req: None*

II. EDUCATION COURSES

A. FOUNDATION THEORIES AND CONCEPTS

EDUC233 - The Teaching Profession   **3 units**

This course deals with the teacher as a person and as a professional within the context of national and global teacher's standards and education philosophies. It will include professional ethics, core values, and awareness of professional rights, privileges and responsibilities as well as the teacher's roles in the society as transformative agent of change. *Pre-req: None; Co-req: None*

EDUC253 - The Child and Adolescent Learners and Learning Principles   **3 units**

The course focuses on child and adolescent development with emphasis on current research and theory on biological, linguistic, cognitive, social and emotional dimensions of development. Further, this includes factors that affect the progress of development of the learners and shall include appropriate pedagogical principles applicable for each development level. *Pre-req: None; Co-req: None*

EDUC293 - Foundation of Special and Inclusive Education   **3 units**

This course shall deal with philosophies, theories and legal bases of special needs and inclusive education, typical and atypical development of children, learning characteristics of students with special educational needs (gifted and talented, learners with difficulty in seeing, learners with difficulty hearing, learners with difficulty communicating, learners with difficulty walking/moving, learners with difficulty remembering and focusing, learner with difficulty with self-care)and strategies in teaching and managing these learners in the regular class. *Pre-req: None; Co-req: None*

EDUC313 - The Teacher and the Community, School Culture and Organizational Leadership   **3 units**

This course focuses on society as a context upon which the schools have been established. Educational philosophies that are related to the society as a foundation of schools and schooling shall be emphasized. Further, principles and theories on school culture, and organizational leadership shall be included to prepare prospective teachers to become school leaders and managers. *Pre-req: None; Co-req: None*

B. PEDAGOGICAL CONTENT KNOWLEDGE

EDUC063A - Assessment in Learning 1   **3 units**

This is a course that focuses on principles, development and utilization of conventional assessment tools to improve the teaching-learning process. It emphasizes on the use of assessment of, as and for, measuring knowledge, comprehension and other thinking skills in the cognitive, psychomotor or affective domains. It allows students to go through the standard steps in test construction and development and the application in grading systems. *Pre-req: None; Co-req: None*

EDUC063B - Assessment in Learning 2   3 units

This is a course that focuses on the principles, development and utilization of alternative forms of assessment in measuring authentic learning. It emphasizes on how to assess process-and product-oriented learning outcomes as well as affective learning. Students will experience how to develop rubrics and other assessment tools performance-based and product-based assessment. *Pre-req: EDUC063A; Co-req: None*

EDUC263 - Building and Enhancing New Literacies Across the Curriculum   3units

This course introduces the concepts of new literacies in the 21st century as an evolving social phenomena and shared cultural practices across learning areas. The 21st century literacies shall include (a) globalization and multi-cultural literacy, (b) social literacy, (c) media literacy, (d) financial literacy, (e) cyber literacy/digital literacy, (f) eco-literacy and (g) arts and creativity literacy. Field based-interdisciplinary explorations and other teaching strategies shall be used in this course. *Pre-req: None; Co-req: None*

EDUC273 - Technology for Teaching and Learning 1   3 units

This is an introductory course that explores basic knowledge and skills and values in the use of technology for teaching and learning. It includes ICT policies and safety issues, media and technology in various content areas, learning theories and principles in the use and design of learning lessons, teaching- learning experiences and assessment tasks that utilize appropriate traditional and innovative technologies with social, ethical and legal responsibility in the use of technology tools and resources. *Pre-req: None; Co-req: None*

EDUC283 - Facilitating Learner Centered Teaching   3 units

This course explores the fundamental principles, processes and practices anchored on learner centeredness and other educational psychologies as these apply to facilitate various teaching-learning delivery modes to enhance learning. *Pre-req: None; Co-req: None*

EDUC303 - The Teacher and the School Curriculum   3 units

This course includes the fundamental concepts and principles in curriculum and curriculum development as a foundation to engage prospective teachers as **c**urricularists. The more active the role of the teacher in planning, implementing and evaluating school-curriculum as well as in managing school curriculum change vis-à-vis various context of teaching-learning and curricular reforms shall be given emphasis. *Pre-req: None; Co-req: None*

C. EXPERIENTIAL LEARNING

FS1 - Field Study 1 (Observation of Teaching Learning in Actual School Environment)   3 units

This is the first experiential course which will immerse a future teacher to actual classroom situation and learning environment where direct observation of teaching learning episodes that focuses on the application of educational theories learned in content and pedagogy courses will be made. Observations of the learner's behavior, motivation, strategies of teaching, classroom management, and assessment in learning among others shall be given emphasis. A portfolio shall be required in the course. Pre-req: *EDUC-ST006, EDUC233; Co-req: FS2*

FS2 - Field Study 2 (Participation and Teaching Assistantship) 3 units

This course is a continuation of FS1 (Observation of Teaching Learning in Actual School Environment). It is school based and allows a re-service student to participate and assist in a limited actual teaching- learning activities that relate to assessment of learning, preparation of instructional materials, preparation of the bulletin boards, and other routines in the classroom. A portfolio which will contain sample lesson or learning plans and demonstration teaching of at least one subject content area will be required. *Pre-req: EDUC233; Co-req: FS1*

EDUC-PRC6 - Practice Teaching (Off-campus/600 hrs) 6 units

The course is the culminating phase of the teacher education degree program. It is a one semester full time teaching internship in basic education schools outside the Colegio (off-campus) using a clinical approach under the mentorship of a cooperating teacher. A teaching portfolio shall be required at the end of the course. *Pre-req: FS1, FS2; Co-req: None*

D. ADDITIONAL COURSES

EDUC-RESA - Educational Research I 3 units

The course is a seminar-workshop type that deals with the rudiments of academic/thesis writing. The end product is a thesis proposal which would undergo defense by panel of experts in Education. BEED - *Pre-req: ELEM193; Co-req: None, BSE-ENG - Pre-req: ENED303; Co-req: None, BSE-Math - Pre-req: MTED263; Co-req: None*

EDUC-RESB - Educational Research II 3 units

The course is the continuation of EDUC-RESA (Educational Research I). The end product is a full-blown thesis that should undergo final defense by panel of experts in Education focusing on the validity and reliability of the findings of the study. *Pre-req: EDUC-RESA; Co-req: None*

EDUC-ST006 – Special Topics 3 units

This course focuses on some problems, issues, and trends related to the field of education. This allows students to have a wider knowledge and perspective of the teaching profession through attendance and conduct of seminars on the latest trends in education. It explores emerging concern, new directions, and reforms through examining the critical issues and problems that brought about the different paradigm shifts and transformations currently found in the aims, processes, and delivery of education. This course also includes the conduct of review sessions to help the Education students of Letran Calamba prepare for their Licensure Examinations for Teachers (LET) in the future. *Pre-req: None; Co-req: FS1 &FS2*

III. PROFESSIONAL COURSES

A. SECONDARY EDUCATION MAJOR IN MATHEMATICS PROFESSIONAL COURSES

MTED003 - History of Math   3 units
The course presents the humanistic aspects of mathematics which provides the historical context and timeline that led to the present understanding and applications of the different branches of mathematics. *Pre-req: None; Co-req: None*

MTED013B - Plane and Solid Geometry   3 units
The course covers topics on Euclidean Geometry. The topics are discussed using both the deductive and inductive methods to conjecture definitions, corollaries, postulates and theorems on plane and solid geometry. *Pre-req: None; Co-req: MTED023B*

MTED023B – Trigonometry   3 units
The course introduces students to circular and trigonometric functions, trigonometric identities, and to the polar coordinate system. The students then apply concepts in these topics to applications in problem solving. *Pre-req: MTED173; Co-req: MTED013B*

MTED033B - Mathematics of Investment   3 units
The course introduces students with a basic understanding of the applications of mathematical concepts and skills in economics, business and accounting. It includes determining the time value of money using simple and compound interest and discounting, variation of annuities, amortization stocks and bonds, and sinking fund. *Pre-req: MTED003; Co-req: None*

MTED043D - Modern Geometry   3 units
The course is an enrichment of the course on Euclidean Geometry. It discusses the properties and applications of other types of geometries such as the finite geometry, non-Euclidean geometry, and projective geometry. *Pre-req: MTED013B, MTED023B; Co-req: None*

MTED073B - Linear Algebra   3 units
The course provides a basic understanding of vector spaces, including the study of matrices, their properties and matrix operations. It also covers the application of matrices in systems of linear equations and linear transformations. *Pre-req: MTED173; Co-req: None*

MTED133B - Number Theory   3 units

The course is a study of the properties of numbers and their proofs. It presents the students with different methods of mathematical proving. It focuses on the discussion of the set of integers that including Unique Prime Factorization, Divisibility Rules, Euclidean Algorithm, Linear Diophantine Equations. *Pre-req: MTED173; Co-req: MTED183*

MTED143B - Abstract Algebra   3 units

The course is a study of basic algebraic structures such as groups, rings, integral domains and fields. It provides a basic understanding of relations focusing on isomorphism. It aims to enhance the student's skills in constructing mathematical proofs, and develop their symbolic thinking and appreciation of mathematical structures. *Pre-req: MTED133B, MTED183; Co-req: None*

MTED173 - College and Advanced Algebra   3 units

The course builds upon the students' knowledge on properties of the real number system, operations on different types of algebraic expressions, and the solution of various types of equations and inequalities. The course also covers the prerequisites to trigonometry and calculus, specifically transcendental and non-transcendental functions, including the characteristics of their graphs and applications. *Pre-req: GEC033; Co-req: None*

MTED183 - Logic and Set Theory   3 units

The course is a study of mathematical logic which covers topics such as propositions, logical operators, rules of replacement, rules of inference, algebra of logic and quantifiers. It also includes a discussion of elementary theory of sets such as fundamental concepts of sets, set theorems, and set operations. *Pre-req: None; Co-req: MTED133B*

MTED193 - Elementary Statistics and Probability   3 units

The course equips the students with basic statistical tools to understand various phenomena. The topics on mean, variance, sampling, and estimation eventually allow the students to be able to perform hypothesis testing on real-life problems from different fields. The course includes applications and data analysis with computations carried out using SPSS. *Pre-req: MTED173; Co-req: None*

MTED204 - Calculus 1 with Analytic Geometry   4 units

The course equips the students with knowledge and skills needed to be able to determine limits of functions, to differentiate, and to integrate algebraic, exponential, logarithmic, and trigonometric functions in one variable. It also includes exposure to more challenging problems covering continuity and areas of regions. *Pre-req: MTED173, MTED013B, MTED023B; Co-req: None*

MTED214 - Calculus 2   **4 units**

The course aims to further develop the students' understanding of differential and integral calculus. It covers the methods and techniques of integration, indeterminate forms, and improper integrals of algebraic and transcendental functions. *Pre-req: MTED204; Co-req: None*

MTED223 - Advanced Statistics   **3 units**

The course deals with non-parametric statistics. It covers the topics on test of association such as Spearman Rho, Phi coefficient, Contingency coefficient, biseral and test of differences such as Mann-Whitney U, Wilcoxon. It includes applications and data analysis with computations carried out using SPSS. *Pre-req: MTED193; Co-req: None*

MTED233 - Problem Solving, Mathematical Investigation, and Modelling   **3 units**

The course deepens and further enhances the students' understanding of real-life applications of mathematics through investigating, pattern finding, testing and justifying conjectures, and making generalizations. *Pre-req: MTED173, MTED023B, MTED013B; Co-req:*

MTED243 - Calculus 3   **3 units**

The course aims to provide the students with an understanding of the applications of differentiation and integration in sequences, infinite series, power series, as well as of multiple integration for functions in several variables. Moreover, students will be able to apply these concepts to problem solving. *Pre-req: MTED214; Co-req: None*

MTED253 - Principles and Strategies in Teaching Mathematics   **3 units**

The course deals with the applications of the principles, the strategies in teaching, and philosophical foundations of teaching mathematics. These are then applied in lesson planning and microteaching. *Pre-req: MTED304; Co-req: None*

MTED263 - Research in Mathematics   **3 units**

The course aims to prepare prospective mathematics teachers to undertake an undergraduate research project. It gives teachers the opportunity to conduct researches that address problems, issues, and concerns in mathematics teaching and learning. It also showcases their research skills through the application of the mathematical content and processes they have learned previously. *Pre-req: MTED253; Co-req: None*

MTED304 - Technology for Teaching and Learning 2 (Instrumentation and Technology in Mathematics)

4 units

The course will focuses on the application, design, production, utilization, and evaluation of Information Communications Technology (ICT) materials for teaching and learning in Mathematics Education Programs. The major requirement for this course is an ICT-integrated and Project-based Learning Plan aligned to the K to 12 curriculum. All the learning activities and course requirements will revolve around the student-teacher developed Learning Plan. *Pre-req: EDUC273; Co-req: None*

MTED293 - Assessment and Evaluation in Mathematics   **3 units**

The course deals with traditional and authentic assessment methods for evaluating mathematics learning. It covers the purposes of instruction and assessment, the relationship of assessment to content and performance standards, and discussions on the issues and trends in assessment specifically in mathematics teaching. *Pre-req: MTED253; Co-req: None*

SCHOOL OF BUSINESS, MANAGEMENT, AND ACCOUNTANCY

Vision

To be a recognized premier academic institution dedicated to educational distinction and producers of exceptional business professionals ready to meet the challenges of a domestic and globalized business environment grounded by the Dominican values and culture of conscience, discipline, and excellence.

Mission

The School of Business, Management, and Accountancy commits to develop responsive and productive professionals and entrepreneurs by providing quality business curricular programs that are imbued with Filipino, Dominican and Christian attitudes and principles.

PROGRAM DESCRIPTION

BACHELOR OF SCIENCE IN ACCOUNTANCY

The program provides general accounting education to students wanting to pursue a professional career in Accountancy in general and in Public Accounting in particular. Further, this is the program that complies with the latest competency framework for professional accountants issued by the International Federation of Accountants (IFAC) through their International Education Standards.

Program Educational Objectives

Bachelor of Science in Accountancy (BSA) aims to train individuals to become competent, ethical, and global financial and accounting practitioners. Three to five years after graduation, the BSA alumni shall be able:

1. Develop and maintain an attitude of learning to learn in order to maintain their competence;
2. Develop knowledge-based problem solving skills and ethical values;
3. Support the various stakeholders in taking strategic and operating decisions through the presentation and analysis of financial data and information arising from business transactions;
4. Practice as accounting professionals engaged in services such as, but not limited to, audit and assurance, tax consultancy and management advisory anchored on professional ethics and moral values;
5. Objectively design, develop and evaluate accounting systems;
6. Conduct accounting and finance related research in organizing people and resources to create value;
7. Contribute to the economic development as responsible partners of the government and stakeholders through managing and/or establishing income generating centers where they portray the roles of strategic business partners and change agents and/or consultants, as entrepreneurs, or managers in government agencies such as those in internal revenues, finance, and trade and industries; and
8. Impart and share expertise to those in the academe and those pursuing continuing professional development.

Program Outcomes and Performance Indicators

Program Outcomes	Performance Indicators
1. Articulate and discuss the latest developments in the specific field of practice	• Engage in continual learning in one's specialization

2. Effectively communicate orally and in writing using English, Filipino, mother tongue language, and an appropriate Foreign Language required by the industry	• Express oneself clearly in verbal or written forms the updates in one's career or vocation • Convey positive Filipino values in one's decisions and actions • Defend satisfactorily his/her thesis from a panel of experts
3. Preserve and promote Filipino historical and cultural heritage (based on RA No. 7722)	• Demonstrate responsible Filipino citizenship in local, national or international communities
4. Participate in various types of employment, development activities, and public discourses, particularly in response to the needs of the communities one serves	• Plan and take action for the welfare of the community • Continually engage oneself in development projects and activities that address the community needs
5. Manifest strong commitment and conviction to the Christian and Dominican teachings and philosophy in thoughts, words, and deeds	• Observe the Dominican values of study, prayer, community, and service • Uphold ecological consciousness and engage in environmental stewardship • Participate actively in the community's spiritual and social advocacy or extension program

6. Describe the basic functions of management such as planning, organizing, leading, and controlling	- Prepare comprehensive strategic business plan - Develop and defend a business development plan that incorporate relevant inputs such as laws, market research and feasibility study, product development, among others - Assume leadership role in business management activities
7. Identify and describe the basic concepts that underlie each of the functional areas of business (marketing, finance, human resources management, production and operations management, information technology, and strategic management) and employ these concepts in various business situations	- Apply the concept of management to assess and formulate operational plan - Employ essential strategy-related components and principles for decision making - Evaluate the merits and implications of selected case studies pertaining to various aspects of business operations - Conduct qualitative interpretations and analyses anchored on the evaluated case studies to draw up insightful strategic business conclusions
8. Select the proper decision making tools to critically, analytically and creatively solve problems and drive results	- Apply appropriate quantitative tools to address a business case problem - Apply sound solution to problems encountered in business operations
9. Apply information and communication technology (ICT) skills as required by the business environment	- Prepare a social media marketing plan - Create business promotional activities using technology application

	• Apply technical knowledge on an ERP system commonly used in the industry • Utilize digital technology to solve pertinent business challenges
10. Work effectively with other stakeholders and manage conflict in the workplace	• Perform well as a team leader or member in any kind of group project or activity • Perform independently and cooperatively to accomplish worthwhile goals • Conduct a planning and problem-solving meeting to resolve issues in business event • Engage in activities that promote teamwork • Apply business ethics in dealing with stakeholders
11. Organize and lead groups to plan and implement business related activities	• Develop and defend a business plan incorporating sales and marketing principles and financial analysis • Identify methods, techniques, and devices appropriate in an organization in business implementation and process • Engage in entrepreneurial management • Explain the path of securing business permits – theoretically and practically – should an enterprise become viable and implementable
12. Demonstrate corporate and social responsibility	• Propose social responsibility strategies and compliance action plan for a business • Apply appropriate CSR technique in decision making

	• Participate in a corporate and social responsibility endeavor
13. Exercise high personal, moral, and ethical standards	• Exhibit honesty, fairness, equity, and good faith in transacting in business. • Promote good governance practices in the conduct of one's business • Apply ethics in business endeavors • Maintain stature and behavior that uphold the Professional Code of Ethics • Immerse in an actual working environment in industry
14. Resolve business issues and problems, with a global and strategic perspective using knowledge and technical proficiency in the areas of financial accounting and reporting, cost accounting and management, accounting and control, taxation, and accounting information systems	• Record financial transactions in compliance with generally accepted accounting and reporting standards (both global and local) for sole proprietorships, partnerships, corporations, government, and non-profit organizations • Prepare Accountancy reports such as budgets and business plans using appropriate framework • Conduct financial and operational audits of all types of business enterprise and not-for-profit organization • Prepare individual and corporate income tax returns and conduct basic tax planning in compliance with relevant legislations and regulations • Perform cost-benefit analysis for management decisions

	• Design and implement a management control and performance system • Communicate effectively the results of financial analysis
15. Conduct accountancy research through independent studies of relevant literature and appropriate use of accounting theory and methodologies	• Design an appropriate research plan • Prepare a critical review of related literature • Analyze results of study and discuss implications and contributions to body of knowledge • Present findings and conclusions of the study • Communicate effectively the recommendations
16. Employ technology as a business tool in capturing financial and non-financial information, generating reports and making decisions	• Customize an accounting software to a particular business entity • Develop a financial model using a spreadsheet software • Analyze the performance of a particular business entity using appropriate accounting software tools and functions
17. Apply knowledge and skills to successfully respond to various types of assessments (including professional licensure and certifications)	• Perform accounting-related work in actual workplace based on pre-set standards • Pass licensure examinations or qualify for professional accreditations/certifications

18. Confidently maintain a commitment to good corporate citizenship, social responsibility and ethical practice in performing functions as an accountant	- Promote adherence to legitimate and acceptable ethical objectives of an organization - Communicate limitations or other constraints that would preclude responsible judgment or successful performance of an activity such as in the practicum or on-the-job training.

BACHELOR OF SCIENCE IN ACCOUNTANCY
GENERAL SUMMARY OF COURSES

I. General Education Courses

A. Core Courses — 24

GEC003	Understanding the Self	3
GEC013	Science, Technology, and Society	3
GEC023	Mga Babasahin Hinggil sa Kasaysayan ng Pilipinas	3
GEC033	Mathematics in the Modern World	3
GEC043	The Contemporary World	3
GEC053	Art Appreciation	3
GEC063	Purposive Communication	3
GEC073	Ethics	3

B. CHED Mandated Courses — 26

a. Rizal Course

RZL023	Buhay at Mga Akda ni Rizal	3

b. Physical Education Courses

PATHFIT1002	Movement Competency Training	2
PATHFIT2022	Exercise Based Fitness Activities	2
PATHFIT3032	Individual/Dual Sports	2
PATHFIT4042	Contemporary Dance	2

c. National Service Training Program

NSTP1-18	National Service Training Program 1	3
NSTP2-18	National Service Training Program 2	3

d. GENED Elective Courses

GECELEC1	Living in the IT Era	3
GECELEC2	The Entrepreneurial Mind	3
GECELEC3	Philippine Popular Culture	3

C. Institutional Mandated Courses — 15

a. Religious Education Courses

RELED053	The Catholic Christian Faith	3
RELED063	Contemporary Issues in Christian Marriage	3
RELED073	Contemporary Issues About Church and Human Society with Immersion	3
RELED083	Christian Ethics	3

b. Letran Quality Enrichment Courses

LQEC23-013	Letran Quality Enhancement Course I (Letran Calamba Identity and 21st Century Learning	3

II. Common Business and Management Courses — 6

Mngt253	Strategic Management	3
Mngt263	Operations Management (TQM)	3

III. Core Accounting Education Courses — 93

ActEd013	Conceptual Framework and Accounting Standards	3
ActEd026A	Intermediate Accounting 1	6
ActEd026B	Intermediate Accounting 2	6
ActEd023C	Intermediate Accounting 3	3
ActEd043	Governance, Business Ethics, Risk Management, and Internal Control	3
ActEd053	Economic Development	3

ActEd062	Statistical Analysis with Software Application	2
ActEd061L	Statistical Analysis with Software Application Lab	1
ActEd072	Accounting Information System	2
ActEd071L	Accounting Information System Lab	1
ActEd093	Managerial Economics	3
ActEd123	Financial Management	3
ActEd133	Cost Accounting and Control	3
ActEd153	Regulatory Framework and Legal Issues in Business	3
ActEd163	Financial Markets	3
ActEd172	IT Application Tools in Business	2
ActEd171L	IT Application Tools in Business Lab	1
ActEd183.	Strategic Cost Accounting	3
ActEd213	Strategic Business Analysis	3
ActEd253	Accounting Research Methods	3
ActEd263	International Business and Trade	3
ACCT-PRC6-2	Accounting Internship (400 hrs)	6
ACCT-RESA	Accountancy Research 1 (Proposal)	3
ACCT-RESB	Accountancy Research 2 (Final)	3
ACCT-ST013	Special Topics in Financial Accounting and Reporting	3
Blw003	Law on Obligations and Contracts	3
Blw053	Business Laws and Regulations	3
BusEd053	Management Science	3
BusEd063	Financial Accounting and Reporting	3
Tax013B	Income Taxation	3
Tax073	Business Taxation	3

IV. Cognates/Major/Professional Courses   36

ACCT112	Auditing in a CIS Environment	2
ACCT111L	Auditing in a CIS Environment Lab	1
ACCT123	Auditing and Assurance Principles	3
ACCT173	Accounting for Special Transactions	3
ACCT183	Accounting for Business Combinations	3
ACCT223	Accounting for Government and Non-Profit Organizations	3
ACCT233A	Auditing and Assurance: Concepts and Applications 1	3
ACCT233B	Auditing and Assurance: Concepts and Applications 2	3
ACCT243	Auditing and Assurance: Specialized Industries	3
ACElec-1	Updates in Financial Reporting Standards	3
ACElec-2	Human Behavior in Organizations	3
ACElec-3	Operations Auditing	3
ACElec-4	Valuation Concepts and Methods	3

TOTAL UNITS   200

BACHELOR OF SCIENCE IN ACCOUNTANCY

Curriculum Year 2023-2024

COURSE CODE	COURSE TITLE	Lec Units/Hrs	Lab Units	Lab Hrs	TOTAL	PRE-REQUISITES/ CO-REQUISITES
FIRST YEAR, First Semester						
ACTED093	Managerial Economics	3			3	
ACTED163	Financial Markets	3			3	
BLW003	Law on Obligations and Contracts	3			3	
BUSED063	Financial Accounting and Reporting	3			3	
GEC023	Mga Babasahin Hinggil sa Kasaysayan ng Pilipinas	3			3	
GEC033	Mathematics in the Modern World	3			3	
GEC043	The Contemporary World	3			3	
LQEC23-013	Letran Quality Enrichment Course I (Letran Calamba Identity and 21st Century Learning Skills)	3			3	
RELED053	The Catholic Christian Faith	3			3	
	Total	**27**	**0**	**0**	**27**	
FIRST YEAR, Second Semester						
ACTED013	Conceptual Framework and Accounting Standards	3			3	BUSED063
ACTED026A	Intermediate Accounting 1	6			6	BUSED063
ACTED133	Cost Accounting and Control	3			3	BUSED063
BLW053	Business Laws and Regulations	3			3	BLW003
GEC013	Science, Technology, and Society	3			3	
GEC063	Purposive Communication	3			3	
NSTP1-18	National Service Training Program 1	3			3	
PATHFIT1002	Movement Competency Training	2			2	
RELED063	Contemporary Issues in Christian Marriage	3			3	RELED053
	Total	**29**	**0**	**0**	**29**	
SECOND YEAR, First Semester						
ACTED026B	Intermediate Accounting 2	6			6	ACTED026A
ACTED061L	Statistical Analysis with Software Application Lab		1	3	1	co-req ACTED062
ACTED062	Statistical Analysis with Software Application	2			2	co-req ACTED061L
ACTED183.	Strategic Cost Accounting	3			3	ACTED133
BUSED053	Management Science	3			3	
NSTP2-18	National Service Training Program 2	3			3	NSTP1-18
PATHFIT2022	Exercise-Based Fitness	2			2	PATHFIT1002
RELED083	Christian Ethics	3			3	RELED053
RZL023	Buhay at Gawa ni Rizal	3			3	
	Total	**25**	**1**	**3**	**26**	
SECOND YEAR, Second Semester						
ACCT123	Auditing and Assurance Principles	3			3	ACTED026B
ACTED023C	Intermediate Accounting 3	3			3	ACTED026B
ACTED043	Governance , Business Ethics, Risk Management , and Internal Control	3			3	ACTED133
ACTED053	Economic Development	3			3	ACTED093
ACTED123	Financial Management	3			3	BUSED063

BACHELOR OF SCIENCE IN ACCOUNTANCY
Curriculum Year 2023-2024

COURSE CODE	COURSE TITLE	Lec Units/Hrs	Lab Units	Lab Hrs	TOTAL	PRE-REQUISITES/ CO-REQUISITES
ACTED171L	IT Application Tools in Business Lab		1	3	1	ACTED062, ACTED061L, BUSED063, co-req ACTED172
ACTED172	IT Application Tools in Business	2			2	ACTED062, ACTED061L, BUSED063, co-req ACTED171L
GEC053	Art Appreciation	3			3	
GEC073	Ethics	3			3	
PATHFIT3032	Individual /Dual Sports	2			2	PATHFIT1002, PATHFIT2022
	Total	**25**	**1**	**3**	**26**	

THIRD YEAR, First Semester

COURSE CODE	COURSE TITLE	Lec Units/Hrs	Lab Units	Lab Hrs	TOTAL	PRE-REQUISITES/ CO-REQUISITES
ACCT111L	Auditing in a CIS Environment Lab		1	3	1	ACTED172, ACTED171L, co-req ACCT112
ACCT112	Auditing in a CIS Environment	2			2	ACTED172, ACTED171L, co-req ACCT111L
ACCT173	Accounting for Special Transactions	3			3	ACTED133, BUSED063, BLW003
ACCT223	Accounting for Government and Non-Profit Organizations	3			3	ACTED026A
ACCT233A	Auditing and Assurance: Concepts and Applications 1	3			3	BUSED063, ACCT123
ACCT243	Auditing and Assurance : Specialized Industries	3			3	ACCT123
ACTED253	Accounting Research Methods	3			3	ACTED013, ACTED062, ACTED061L, BLW053
ACTED263	International Business and Trade	3			3	BUSED063
PATHFIT4042	Contemporary Dance	2			2	PATHFIT1002, PATHFIT2022
RELED073	Contemporary Issues about Church and Human Society with Immersion	3			3	RELED053
TAX073	Business Taxation	3			3	BLW003
	Total	**28**	**1**	**3**	**29**	

THIRD YEAR, Second Semester

COURSE CODE	COURSE TITLE	Lec Units/Hrs	Lab Units	Lab Hrs	TOTAL	PRE-REQUISITES/ CO-REQUISITES
ACELEC-1	Updates in Financial Reporting Standards	3			3	BUSED063
ACELEC-2	Human Behavior in Organizations	3			3	BUSED063
ACELEC-3	Operations Auditing	3			3	ACCT123
ACELEC-4	Valuation Concepts and Methods	3			3	BUSED063
ACTED153	Regulatory Framework and Legal issues in Business	3			3	BLW003
GECELEC1	Living in the IT Era	3			3	
GECELEC3	Philippine Pop Culture	3			3	
TAX013B	Income Taxation	3			3	BLW003
	Total	**24**	**0**	**0**	**24**	

FOURTH YEAR, First Semester

COURSE CODE	COURSE TITLE	Lec Units/Hrs	Lab Units	Lab Hrs	TOTAL	PRE-REQUISITES/ CO-REQUISITES
ACCT183	Accounting for Business Combinations	3			3	ACTED133, BUSED063, BLW003
ACCT233B	Auditing and Assurance: Concepts and Applications 2	3			3	ACCT233A
ACCT-RESA	Accountancy Research 1 (Proposal)	3			3	ACTED253
ACTED071L	Accounting Information System Lab		1	3	1	ACTED133, BUSED063, co-req ActEd072
ACTED072	Accounting Information System	2			2	ACTED133, BUSED063, co-req ActEd071L
ACTED213	Strategic Business Analysis	3			3	ACTED133
GEC003	Understanding the Self	3			3	
GECELEC2	The Entrepreneurial Mind	3			3	
MNGT253	Strategic Management	3			3	

BACHELOR OF SCIENCE IN ACCOUNTANCY
Curriculum Year 2023-2024

COURSE CODE	COURSE TITLE	Lec Units/Hrs	Lab Units	Lab Hrs	TOTAL	PRE-REQUISITES/ CO-REQUISITES
MNGT263	Operations Management (TQM)	3			3	
	Total	26	1	3	27	
FOURTH YEAR, Second Semester						
ACCT-PRC6-23	*Accounting Internship (400 hrs)	6			6	ACTED253
ACCT-RESB	Accountancy Research 2 (Final)	3			3	ACCT-RESA
ACCT-ST013	Special Topics in Financial Accounting and Reporting	3			3	ACELEC-1
		12	0	0	12	
	GRAND TOTAL	196	4	12	200	

*Accounting Research should be taken togenther with Accounting Internship (6 units) and n no instance should the student be allowed to enroll in more than twelve units during the term (CMO 27 s. 2017).

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COURSE DESCRIPTION

I. GENERAL EDUCATION COURSES

A. CORE COURSES

GEC003 - Understanding the Self   **3 units**

The course discusses the nature of identity, its factors and forces that affect the development and maintenance of personal identity. It is intended to facilitate the exploration of the issues and concerns regarding self and identity to arrive at a better understanding of one's self. It strives to meet this goal by stressing the integration of the personal with the academic — contextualizing matters discussed in the classroom and in the everyday experiences of students — making for better learning, generating a new appreciation for the learning process, and developing a more critical and reflective attitude while enabling them to manage and improve their selves to attain a better quality of life.

This also includes mandatory topics on Family Planning and Population Education. *Pre-req: None; Co-req: None*

GEC013 - Science, Technology, and Society   **3 units**

The course deals with interactions between science and technology and social cultural, political, and economic contexts, which shape and are shaped by them.

The interdisciplinary course engages students to confront the realities brought about by science and technology in society. Such realities pervade the personal, the public, and the global aspects of our living and are integral to human development. Scientific knowledge and technological development happen in the context of society with all its socio-political, cultural, economic, and philosophical underpinnings at play. This course seeks to instill reflective knowledge in the students that they are able to live the good life and display ethical decision making in the face of scientific and technological advancement.

This also includes discussion of climate change and environmental awareness as well as the implementation of the different environmental protection laws. *Pre-req: None; Co-req: None*

GEC023 - Mga Babasahin Hinggil sa Kasaysayan ng Pilipinas   **3 units**

Ang kursong ito ay tumatalakay sa mga piling primaryang sanggunian ukol sa iba't ibang yugto ng kasaysayan ng Pilipinas, pagsusuri at interpretasyon. Isasama din ang pagtalakay sa konstitusyon ng Pilipinas simula sa taong 1899 hanggang sa taong 1987. Ganun din ang pagtalakay sa repormang agraryo. Gayundin ang pagtalakay sa pagbubuwis bilang instrumento ng pamahalaan. Ito ay may kaugnayan sa tibay ng pagbubuwis bilang isa sa tatlong kapangyarihan ng pamahalaan na nakasaad sa Saligang Batas taong 1987. *Pre-req: None; Co-req: None*

GEC033 - Mathematics in the Modern World   **3 units**

The course discusses the nature of Mathematics, appreciation of its practical, intellectual, and aesthetic dimensions, and application of mathematical tools in daily life. *Pre-req: None; Co-req: None*

GEC043 - The Contemporary World   3 units

The course discusses globalization and its impact on individuals, communities and nations, challenges and responses. It introduces students to the contemporary world by examining the multifaceted phenomenon of globalization. Using the various disciplines of the social sciences, it examines the economic, social, political, technological, and other transformations that have created an increasing awareness of the interconnectedness of people and places around the globe. It provides an overview of the various debates in global governance, development, and sustainability. Beyond exposing the student to the world outside the Philippines, it seeks to inculcate a sense of global citizenship and global ethical responsibility.

This also includes mandatory topics on population education in the context of population and demography. *Pre-req: None; Co-req: None*

GEC053 - Art Appreciation   3 units

The course discusses the nature, function and appreciation of the arts in contemporary society. It intends to develop students' ability to appreciate, analyze, and critique works of art. Through interdisciplinary and multimodal approaches, this course equips students with a broad knowledge of the practical, historical, philosophical, and social relevance of the arts. This will hone their ability to articulate their understanding of the arts. It will also develop students' competency in researching and curating arts as well as conceptualizing, mounting, and evaluating art productions. The course aims to develop students' genuine appreciation for Philippine arts by providing them opportunities to explore the diversity and richness and their rootedness in Filipino culture. *Pre-req: None; Co-req: None*

GEC063 - Purposive Communication   3 units

The course discusses writing, speaking and presenting to different audiences and for various purposes. It develops students' communicative competence and enhances their cultural and intercultural awareness through multimodal tasks that provide them opportunities for communicating effectively and appropriately to a multicultural audience in a local or global context. It equips students with tools for critical evaluation of a variety of texts and focuses on the power of language and the impact of images to emphasize the importance of conveying messages responsibly. *Pre-req: None; Co-req: None*

GEC073 – Ethics   3 units

This course covers the context and tenets of ethical behavior in modern society including how individuals and communities interact with the environment and other common resources. It helps one to enhance their grasp of ethics and moral reasoning through the study of numerous theoretical viewpoints and moral experiences that make up so much of the core of daily life. By the end of the course, students should be able to articulate why and how people are seen as moral beings existing in a moral universe with a responsibility to protect themselves, one another, and the environment for everyone. *Pre-req: None; Co-req: None*

B. GENERAL EDUCATION ELECTIVE COURSES

GECELEC1 - Living in the IT Era   **3 units**
This general education elective course discusses how information technology shaped that way of life in the modern era. It discusses the science, culture and ethics information technology as well as how it affects contemporary life and interpersonal interactions and the way it may be used to promote one's social, professional, and personal goals. *Pre-req: None; Co-req: None*

GECELEC2 - The Entrepreneurial Mind   **3 units**
This general education elective course focuses on the nature and fundamentals of entrepreneurship as well as its societal responsibilities and repercussions. It is designed to assist students comprehend the business environment and encourage individuals adopt and innovative mindset. *Pre-req: None; Co-req: None*

GECELEC3 - Philippine Popular Culture   **3 units**
This general education elective course focuses on the emerging potential and expectation of mass audiences, markets and mass media, as well as their social, economic, and political settings, in the field of art, music, and literature. By the completion of the course, students should be able to demonstrate their appreciation of traditional and modern cultural expressions of as well as identify, analyze and develop trends in Philippine culture that have been inspired by various internal and external influences. *Pre-req: None; Co-req: None*

C. CHED MANDATORY COURSES

RZL023 - Buhay at Mga Akda ni Rizal   **3 units**
Ito'y isang pag-aaral sa buhay at gawa ni Gat. Jose Rizal at ang kaugnayan at kahalagahan sa nilalaman ng pangkasaysayang pagsulong ng lipunang Pilipino. Gamit ang istratehiyang 'Dambana" kung saan ang mag-aaral ay maglalaan ng panahon sa Bahay-Rizal sa Calamba, ang mag-aaral ay magiging kabahagi ng Rizal Shrine staff sa edukasyong pangkasaysayan ng mga panauhin sa Bahay-Rizal. *Pre-req: None; Co-req: None*

D. INSTITUTIONAL MANDATED COURSES

LQEC23-013 - Letran Quality Enrichment Course I (Letran Calamba Identity and 21st Century Learning Skills)   **3 units**
LQEC 1 is an enhancement course that is designed to introduce the identity of Colegio de San Juan de Letran Calamba including its history, Dominican spirituality, mission, vision, quality objectives, policies, processes and services. It also introduces the "Four Cs" of 21st Century Learning: Critical Thinking, Creativity, Collaboration and Communication that aims to enhance students' knowledge and awareness of the essential communication concepts and establish deep comprehension of the processes in a

creative manner. Furthermore, it helps the learners to formulate logical and well-thought-out reasoned judgments and promote active engagement with others to achieve a common goal. *Pre-req: None; Co-req: None*

LQEC23-023 - Letran Quality Enrichment Course II (21st Century Literacy Skills & Life Skills and Sustainability) 3 units

LQEC 2 is an enhancement course that is designed to provide basic understanding about leadership, flexibility, initiative, social skills and productivity. It also introduces digital literacy which focuses on fundamental understanding of media, technology, and information as tools for communication and the advancement of people and communities.

Moreover, the course also introduces the concept of Environment, Social, and Governance (ESG) which determines an organization's commitment to sustainability. All of these are necessary to help the learners become competitively employable in the future of work. *Pre-req: LQEC23-013; Co-req: None*

RELED053 - The Catholic Christian Faith 3 units

This course deals with the basic Catholic Christian Doctrine. It highlights the 12 articles of faith in the Apostles Creed, as well as the Sacred Scripture. Thus it guides the students to a life of truth, fidelity and worship to God. *Pre-req: None; Co-req: None*

RELED063 - Contemporary Issues in Christian Marriage 3 units

Contemporary Issues in Christian Marriage is a three unit academic subject. The emphasis of the course is on Marriage and Family presented as a vocation and a sacrament. The study prepares the students for the reception of the sacrament and achievement of a better outlook on the realities and complexities of the married state and family life. *Pre-req: RELED053; Co-req: None*

RELED073 - Contemporary Issues About Church and Human Society with Immersion 3 units

Contemporary Issues About Church and Human Society with Immersion is a three unit academic subject. This course studies the seven themes of the social teachings of the Catholic Church. It also tackles contemporary social issues which hamper the development of our country. An integral part of the course is Makipamuhay, a learning strategy that allows students to experience direct contact with the oppressed in society specifically the rural poor and leads them to develop personal as well as communal witnessing to authentic Christian faith. *Pre-req: RELED053; Co-req: None*

RELED083 - Christian Ethics 3 units

This course presents the foundations and fundamentals of Christian Ethics and their application to issues and concerns related to the Ten Commandments. *Pre-req: RELED053; Co-req: None*

E. PHYSICAL EDUCATION COURSES

PATHFIT1002 - Movement Competency Training   2 units
This course provides training in different movement and core engagement in conjunction with principles of healthy and physical active life. Students will be able to adopt and transfer the movement competency in different contexts. *Pre-req: None; Co-req: None*

PATHFIT2022 - Exercise-Based Fitness   2 units
This course provides experiences in core stability, strength, and mobility training. It includes goal setting exercise progression and regression and periodic assessment for the development of various fitness component.
Pre-req: PATHFIT1002; Co-req: None

PATHFIT3032 - Individual/Dual Sports   2 units
This course puts emphasis on gaining basic knowledge of individual/dual sports, fitness and lifetime activities. It also includes different kinds of individual/dual sports. Students will learn the skills and game strategies for each sport as well as their historical background and terminology. Activities promote participation in physical activity to achieve good health and wellness. *Pre-req: PATHFIT1002, PATHFIT2022; Co-req: None*

PATHFIT4042 - Contemporary Dance   2 units
This course provides the students the foundations of contemporary dance technique and execution. It focuses on various movement concepts at each level, particularly designed solos, and the integration of organized improvisation to provide students, the opportunity to explore and come up with their own movement language. It encourages creativity by fusing elements of jazz, modern dance, lyrical dance, classical ballet, and other disciplines. *Pre-req: PATHFIT1002, PATHFIT2022; Co-req: None*

F. NATIONAL SERVICE TRAINING PROGRAM

NSTP1-18 - National Service Training Program 1   3 units
The National Service Training Program 1 is a curricular offering consisting of lectures and trainings on citizenship, values education, environment and drug education, disaster management, transformational leadership, dimensions of development and literacy and numeracy skills aimed to empower the youth as potential community leaders toward national development. *Pre-req: None; Co-req: None*

NSTP2-18 - National Service Training Program 2   3 units
The National Service Training Program 2 is a sequel to NSTP1. This course is designed to equip the students with the fundamentals of project identifications, planning implementation and evaluation which include but is not limited to lecture and training on social mobilization, community development, and community service. The students are required to undergo the process of community immersion in pursuit of applying the concepts learned in contributing to the general welfare of in the Colegio's partner communities. *Pre-req: NSTP1-18; Co-req: None*

II. PROFESSIONAL COURSES

A. BUSINESS EDUCATION COURSES

BLW003 - Law on Obligations and Contracts   **3 units**
This course gives the students an understanding of the legal concepts and rules governing the law of obligations and contracts and application of these concepts to practical problems. It involves the discussion of the nature, sources, kinds, and extinguishments of contracts including defective contracts and other miscellaneous topics relevant to the course. *Pre-req: None; Co-req: None*

BLW053 - Business Laws and Regulations   **3 units**
This course is intended to give students a broad knowledge of legal provisions governing business associations – limited liability company, partnership, and corporations. Topics include: nature of partnership; elements and kinds of partnership; formalities required; rules of management, distribution of profits, and sharing of losses and liabilities; modes of dissolution; limited partnership; nature and classes of corporations; requirements for incorporation; powers of a corporation (expressed, implied, and incidental); Board of Directors; classes of stock, powers, and obligations of stockholders; majority and minority controls; corporate reorganization (mergers, consolidations, and other business combinations); modes of dissolution and liquidation; and statutory books, records, and returns required for a corporation. The law of associations such as clubs are also discussed. *Pre-req: Blw003; Co-req: None*

BUSED053 - Management Science   **3 units**
The course introduces the basic concepts of Management Science and Operations Management and its application to business. The topics include project management, forecasting, inventory management, cost-benefit analysis and decision-making. The course develops problem solving and spreadsheet skills, an invaluable tool for modern business. *Pre-req: None; Co-req: None*

BUSED063 - Financial Accounting and Reporting   **3 units**
The course will cover a thorough discussion of the accounting cycle and introduces the students to concepts of financial accounting and learn the technical skills required for preparation and analysis of financial statements and disclosures. This course emphasizes on recording business transactions within the accounting and double entry system. It provides an understanding of both the Philippine and international financial reporting regulations, uses and limitation of financial accounting information and current issues in reporting including the integrated reporting concept. *Pre-req: None; Co-req: None*

MNGT253 - Strategic Management   **3 units**
The aim of this course is to provide students with a broad overview of the basic concepts in strategic management. The students will be expose to a number of frameworks and models to better understand and

analyze the macro-environment, the industry environment, and firm level resources. The end goal is for the students to be able to think strategically, as opposed to only having a functional orientation, and to formulate and to implement creative and innovative strategies that are conducive to the demands of the firm and the environment in which it resides. *Pre-req: None Co-req: None*

MNGT263 - Operations Management (TQM)   **3 units**
This course examines the subject of production and operations management (POM) and discusses its importance to the overall strategy and competitiveness of a firm in addition, this course focuses on specific tools used to manage and enhance a firm's operations and production, such as facility layout, product design, aggregate planning, inventory management, and forecasting. Other topics include process analysis and selection operations scheduling, quality management and statistical quality control and project management. *Pre-req: None; Co-req: None*

TAX013B - Income Taxation   **3 units**
This course is primarily concerned with income taxation. The objective is to develop a working knowledge of the principles and rules of the income tax system as these apply to individuals, partnerships, and corporations. It covers an overview of the national tax system, and the income, taxation of employees and various business entities. It provides the students with knowledge of the capital gains tax, final tax on certain passive income, and the year-end tax including the minimum corporate income tax, the normal tax, and the improperly accumulated profits tax of corporations and withholding taxes. Tax forms are provided for specific topics discussed. *Pre-req: BLW003; Co-req: None*

TAX073 - Business Taxation   **3 units**
This course is an in-depth study of business taxes and is a continuation of Income Taxation. It covers value-added tax schemes; local direct taxes including real estate and other property taxes; excise taxes; transfer taxes on gratuitous transfer of property which are estate tax and the donor's tax; business taxes; and the remedies of the estate and the tax payer. On estate tax, the basic concept of succession gives the student an understanding of succession rights. Discussions on estate tax are on gross estate, deductions from the gross estate and computations for the net taxable estate, estate tax, and estate tax credit. On donor's tax, basic concepts of donation blend into the discussion of gross gifts, deduction from the gross profits and computations of net taxable gifts, donor's tax, and tax credit. On business taxes, the value-added tax, percentage taxes and the remedies of the taxpayers on taxes being assessed and/or erroneously paid are discussed. Emphasis is given on ethical consideration – tax avoidance and the minimization of tax liabilities vs. tax evasion. *Pre-req: TAX013B; Co-req: None*

B. CORE ACCOUNTING COURSES

ACTED013 - Conceptual Framework and Accounting Standards   **3 units**
This course includes the discussion of the conceptual framework that serves to assist preparers of financial reports in the application of International Financial Reporting Standards (IFRS) and the discussions of the basic accounting standards in the presentation of financial statements.

The course will tackle the development of Financial Reporting Framework and Standard-Setting Bodies, Regulation of the Accountancy Profession, review of the accounting process, the preparation and presentation of the financial statements in accordance with the International Accounting Standards (IAS). *Pre-req: BUSED063; Co-req: None*

ACTED026A - Intermediate Accounting 1   6 units
This course covers the detailed discussion, appreciation, and application of international standards/accounting principles involving assets, financial and non-financial. Emphasis is given on the interpretation and application of theories of accounting in relation to cash, temporary investments, receivables, inventories, prepayments, long-term investments, property, plant, and equipment, intangible and other assets, including financial statement presentation and disclosure requirements. The related internal control, ethical issues, and management of assets are also covered. Exposure to computerized system in receivables, inventory, and lapsing schedules is a requirement in this course. Applicable international financial reporting standards should be used in all topics cover. It includes introduction to Financial Instruments. *Pre-req: BUSED063; Co-req: None*

ACTED026B - Intermediate Accounting 2   6 units
This course covers the detailed discussion of the financial accounting principles relative to the recognition, measurement, valuation and financial statement presentation of liabilities and shareholder's equity, including disclosure requirements. The related internal control, ethical issues, and management of liabilities and owner(s)' equity are also covered. This also deals with the contemporary issues such as leases, employee retirement benefits, deferred taxes, and current related items. Applicable international financial reporting standards shall be used as reference in all topics. Topics include Overview on Derivatives, Special Topics – Leases, Income Taxes, Accounting for Employee Benefits, and Share-Based Payment.
Pre-req: ACTED026A; Co-req: None

ACTED023C - Intermediate Accounting 3   3 units
This course deals with the preparation of a properly classified statement of financial position, statement of comprehensive income, statement of changes in equity, and statement of cash flows, including the required disclosures and notes to the financial statements. It also covers reconstruction of accounts from incomplete records, change from cash basis to accrual basis of accounting, correction of errors, accounting changes, discontinued operations, earnings per share, accounting for changing prices, interim reporting, segment reporting, and other current related items. The students will also be exposed to financial statements of specialized industries. Applicable international financial reporting standards should be used as reference in all the topics. *Pre-req: ACTED026B; Co-req: None*

ACTED043 - Governance, Business Ethics, Risk Management, and Internal Control   3 units
This course will provide the students with an overview of risk that can threaten the attainment of organizational objectives. The course will discuss the interplay of corporate governance, risk management and control frameworks to identify, assess, and manage risk. It aims at enhancing the student's understanding of corporate governance, risk management, control and ethics that are crucial for organizations to meet their business objectives without compromising ethical and social responsibilities. *Pre-req: ACTED133; Co-req: None*

ACTED053 - Economic Development 3 units
This is an intermediate undergraduate course in development economics. The course covers the following topics: the meaning and measurement of economic development, growth theories, poverty and income distribution, the role of geography and institutions, fertility and population growth, the role of credit markets and microfinance, health and nutrition, education, female empowerment. *Pre-req: ACTED093; Co-req: None*

ACTED062 - Statistical Analysis with Software Application 2 units
This course focuses on the collection and presentation of data, measures of variation, location, probability distribution, statistical inference, central limit theorem, types of errors, t-test, non-parametric statistics, chi-square, sign test, spearman correlation coefficient, and analyses of variance. The students will also learn to use computer-based statistical software such as SAS, SPS, and other related software packages available in the market. *Pre-req: Co-req: ACTED061L*

ACTED061L - Statistical Analysis with Software Application Lab 1 unit
As the laboratory component of ActEd062 (Statistical Analysis with Software Application), the course focuses on the use of statistical tools and/ or programs in the application of theories learned. *Pre-req: None; Co-req: ACTED062*

ActEd072 - Accounting Information System 2 units
Accounting Information System (AIS) introduces students to the systems that underlie bookkeeping, accounting, financial reporting, tax reporting, and auditing in all business firms. Such systems are increasingly complex and in a continual state of flux do to rapidly changing technologies and security risks. In this course, the students learn about the development standards and practices for accounting information systems and gain hands-on experience in, the use of electronic spreadsheet software for advanced business analysis, and to gain hands-on experience with a commercial accounting software package. *Pre-req: ACTED133, BUSED063; Co-req: ActEd071L*

ActEd071L - Accounting Information System Lab 1 unit
As the laboratory component of ActEd072 (Accounting Information System), the student shall gain hands-on experience in the use of electronic spreadsheet software for advanced business analysis and to gain hands-on experience with a commercial accounting software package. *Pre-req: ACTED133, BUSED063,; Co-req: ActEd072*

ACTED093 - Managerial Economics 3 units
The course is concerned with the application of economic principles and methodologies to key management decisions within organizations. It provides principles to foster the goals of the organization, as well as a better understanding of the external business environment in which an organization operates. *Pre-req: None; Co-req: None*

ACTED123 - Financial Management
3 units

This course covers decision level responsibility for fund generation, fund allocation, capital structuring, and profit supervision. Emphasis is laid on long term financial planning, the distribution of capital, directing its use, assessing the management's use of capital and taking remedial action in managing the capital. *Pre-req: BUSED063; Co-req: None*

ACTED133 - Cost Accounting and Control
3 units

This course is designed to orient the students to the cost accounting and cost management framework of business. Topics discussed are: overview of cost accounting, manufacturing cost accounting cycle; cost method: job order and process cost systems; accounting planning and control for materials, labor and overhead, accounting for joint and by product costs. *Pre-req: BUSED063; Co-req: None*

ACTED153 - Regulatory Framework and Legal Issues in Business
3 units

This course deals with the law on sales, its nature, forms and requisites. It discusses rights and obligations of the vendor and vendee including remedies in case of defaults. It covers applicable laws on installment sales. The course also provides the students an understanding of the law on credit transactions such as pledges, real mortgages and chattel mortgages. It also discusses the insolvency law as well as corporate rehabilitation. The course also provides basic knowledge on the Law of Cooperatives and other laws on other business transactions such as the PDIC Law, Secrecy of Bank Deposits and Unclaimed Balances Law, General Banking Law, AMLA Law, The New Central Bank Act, and Intellectual Property Law. *Pre-req: BLW003; Co-req: None*

ACTED163 - Financial Markets
3 units

This course introduces the students to the financial markets environment in which business organizations operate. The course presents an overview of the financial system and its various financial markets, instruments and institutions. *Pre-req: None; Co-req: None*

ACTED172 - IT Application Tools in Business
2 units

This course is designed to provide Accountancy students with an overview of the systems analysis and design concepts, methodologies, techniques, and tools. The course starts with a discussion of the general system concepts, management's use of information, IT infrastructure and rules as they pertain to accounting, accountant's functions with respect to IT; the management of IT adoption, implementation and use, managing the security of information, and electronic commerce. It then proceeds to a discussion of the systems development environment, system development life cycle, system analysis and design techniques, system acquisition, development life cycle phases, tasks and practices and maintaining control over system development processes, and accounting system design issues. *Pre-req: ACTED062, ACTED061L, BUSED063; Co-req: ACTED171L*

ACTED171L - IT Application Tools in Business Lab
1 unit

As the laboratory component of ActEd172 (IT Application Tools in Business), the students shall be exposed to the use of software or applications on analyzing and designing accounting systems. As an output, the students shall be required to make a design of an accounting system. *Pre-req: ACTED062, ACTED061L, BUSED063; Co-req: ACTED172*

ACTED183. - Strategic Cost Accounting
3 units

This course includes the discussion of Management Accounting Concepts & Techniques for Planning & Control which focuses on "strategic" cost management practices including capital budgeting, activity-based management, target costing, the just-in-time philosophy, quality costs, theory of constraints, among others. *Pre-req: ACTED133; Co-req: None*

ACTED213 - Strategic Business Analysis
3 units

The course covers discussion of Management Accounting Concepts & Techniques for performance measurement (i.e. responsibility accounting and transfer pricing; balance score cards) and decision making (quantitative techniques and differential analysis). This course will equip the students with the knowledge and techniques to better understand an organization/industry and identify issues and opportunities. *Pre-req: ACTED133; Co-req: None*

ACTED253 - Accounting Research Methods
3 units

This course introduces the students to professional and scientific research in accounting. The course instructs in research methods, issues, research appreciation and evaluation together with individual practice in planning, conducting, and reporting professional research projects in accounting. The primary emphasis of the course will be on developing skills for conducting research and comprehending research output in an applied and professional context. *Pre-req: ACTED013, ACTED062, ACTED061L, BLW053; Co-req: None*

ACTED263 - International Business and Trade
3 units

This introductory course focuses on the core concepts and techniques for entering the international marketplace. Emphasis is on the effect of sociocultural, demographic, economic, technological, and political-legal factors in the foreign trade environment. As an introductory survey course, we will cover a variety of topics to illustrate the unique nature of international business including the patterns of world trade, currency exchange and international finance, globalization of the firm, international marketing, and operating procedures of the multinational enterprise. *Pre-req: BUSED063; Co-req: None*

C. ACCOUNTING PROFESSIONAL COURSES

ACCT112 - Auditing in CIS Environment
2 units

This course complements the course in auditing. It discusses information technology related risks. Security and control mechanisms and techniques that may be employed to address the risks, and the impact of computer use on the audit. It also introduces computer assisted audit techniques and tools. In this course,students gain an appreciation of the particular feautures and understanding of the risks involved in auditing in CIS environment, the CIS controls they would expect to find in this particular area, how auditors use CAATTs (Computer Assisted Audit Tools and Techniques) in this area. The students gain hands-on experience in the use of computers in performing audits. *Pre-req: ACTED172, ACTED171; Co-req: ACCT111L*

ACCT111L Auditing in CIS Environment Lab
1 unit

This course complements the course in auditing. It discusses information technology (IT) -related risks. Security and control mechanisms and techniques that may be employed to address the risks, and the impact of computer use on the audit. It also introduces computer assisted audit techniques and tools. In this course,students gain an appreciation of the particular feautures and understanding of the risks involved in auditing in CIS environment, the CIS controls they would expect to find in this particular area, how auditors use CAATTs (Computer Assisted Audit Tools and Techniques) in this area. The students gain hands-on experience in the use of computers in performing audits. *Pre-req: ACTED172, ACTED171L; Co-req: ACCT112*

ACCT123 - Auditing and Assurance Principles
3 units

This course is designed to expose students both to the demand for and the supply of the profession's flagship service – financial statements audit – and to the nature of the value-added assurance services which decision makers demand in the information age. Topics are discussed based on the applicable international auditing standards. It also discuss in detail the basic professional values, the Code of Ethics for Professional Accountants in the Philippines and the Accountancy Law. *Pre-req: ACTED026B; Co-req: None*

ACCT173 - Accounting for Special Transactions
3 units

This course deals with specialized accounting problems likely to be encountered by accountants. The study of the various topics in this course is based upon fundamental valuation accounting and accounting theory as applied to special income and expense recognition methods and expanded business operations. This course includes specialized problems in partnership accounting; accounting for joint ventures and associated enterprises; accounting for domestic branches; accounting for installment sales; accounting for long-term construction contracts; fire insurance accounting; and other special issues such as build-operate-transfer (BOT) and similar schemes. Relevant and current IAS/IFRS. Interpretations of the Standards should be used in the foregoing topics. *Pre-req: ACTED133, BUSED063, BLW003; Co-req: None*

ACCT183 - Accounting for Business Combinations
3 units

This course is a continuation of Advanced Financial Accounting and Reporting Part I. It deals mainly with consolidation and mergers, parent-subsidiary relationship, and consolidated statements, including foreign subsidiaries. The other topics deal with accounting for the effects of changes in foreign exchange rates and other similar current issues. Also discussed are debt, restructuring, accounting for financially distressed corporations, accounting for the winding up of an enterprise and accounting variations among countries. *Pre-req: ACTED133, BUSED063, BLW003; Co-req: None*

ACCT223 - Accounting for Government and Non-Profit Organizations
3 units

This course is the last part of the advanced financial accounting and reporting and covers accounting for government and not-for-profit organizations such as universities, NGOs and hospitals accounting and specialized industries like banking, insurance and extractive industries. A large part of the course covers the Philippine Government Accounting Standards (PGAS) and the New Government Accounting System (NGAS) prescribed by the Commission on Audit. Includes Accounting for Derivatives, Financial reporting for specialized industries, Financial reporting for specialized topics (Environmental costs and liabilities and Governmental assistance). *Pre-req: ACTED026A; Co-req: None*

ACCT233A - Auditing and Assurance: Concepts and Applications 1   3 units

This is a continuation of Assurance Principles and Professional Ethics, focusing on financial statements audit. It covers detailed approaches to problems and situations normally encountered in the independent examination of cash, receivables, inventories, investments, prepaid expenses, deferred charges, property, plant and equipment, intangibles assets. It deals specifically with the application of relevant auditing standards, techniques, and procedures; internal control evaluation; preparation of audit working papers; introduction of computer application in auditing; audit adjustments; and audit reports pertaining to a medium-sized manufacturing or trading concern. The determination of audit objectives and audit programs, evaluation of internal control, and determination of substantive procedures as applied to various accounts are better appreciated as the transaction cycle approach is employed in the course. Audit working papers and audited financial statements are the natural outputs of this course leading to the preparation of audit reports. *Pre-req: BUSED063, ACCT123: Co-req: None*

ACCT233B - Auditing and Assurance: Concepts and Applications 2   3 units

This is a continuation of Assurance Principles and Professional Ethics, focusing on financial statements audit. It covers detailed approaches to problems and situations normally encountered in the independent examination of short and long-term liabilities, owners' equity, and revenue and expenses. It deals specifically with the application of relevant auditing standards, techniques, and procedures; internal control evaluation; preparation of audit working papers; introduction of computer application in auditing; audit adjustments; and audit reports pertaining to a medium-sized manufacturing or trading concern. The determination of audit objectives and audit programs, evaluation of internal control, and determination of substantive procedures as applied to various accounts are better appreciated as the transaction cycle approach is employed in the course. Audit working papers and audited financial statements are the natural outputs of this course leading to the preparation of audit reports. *Pre-req: ACCT233A; Co-req: None*

ACCT243 - Auditing and Assurance: Specialized Industries   3 units

This is a continuation of Assurance Principles and Professional Ethics, focusing on financial statements audit. It covers detailed approaches to problems and situations normally encountered in the independent examination of cash, receivables, inventories, investments, prepaid expenses, deferred charges, property, plant and equipment, intangibles, liabilities, owners' equity, and revenue and expenses. It deals specifically with the application of relevant auditing standards, techniques, and procedures; internal control evaluation; preparation of audit working papers; introduction of computer application in auditing; audit adjustments; and audit reports pertaining to a medium-sized manufacturing or trading concern. The determination of audit objectives and audit programs, evaluation of internal control, and determination of substantive procedures as applied to various accounts are better appreciated as the transaction cycle approach is employed in the course. Audit working papers and audited financial statements are the natural outputs of this course leading to the preparation of audit reports. *Pre-req: ACCT123; Co-req: None*

ACCT-ST013 - Special Topics in Financial Accounting and Reporting   3 units

This subject covers assessing the students' ability to demonstrate understanding and application of accounting principles and standards relating to: nature and composition of accounts; initial recognition; measurement and valuation, subsequent events and transactions; subsequent measurement and recognition of losses due to impairment and other causes; related party transactions, financial statement presentation and disclosures. *Pre-req: ACELEC-1; Co-req: None*

ACCT-RESA - Accounting Research 1 (Proposal)   **3 units**

This course is a capstone course where students are required to use knowledge obtained from previous accounting and finance courses including research skills learned to solve accounting and finance problems. The students shall learn applied research for solving complex accounting and finance issues and train and equip them in making sound economic decisions. The output of this course shall be a research proposal. *Pre-req: ACTED253; Co-req: None*

ACCT-RESB - Accounting Research 2 (Final)   **3 units**

The required output for this course shall be a full-blown research paper. Formal defense of results of research is required. *Pre-req: ActEd253, ACCT-RESA; Co-req: None*

ACCT-PRC6-23 - Accounting Internship (400 hrs)   **6 units**

This is mentored practical experience conducted under a memorandum of agreement between the Colegio and an industry partner which requires one semester for 400 contact hours. This undertaking may cover the areas of accounting, external audit, internal audit, or tax. *Pre-req: ACTED253; Co-req: None*

ACELEC-1 - Updates in Financial Reporting Standards   **3 units**

This course will discuss and tackle the latest developments and promulgation on the Philippine Reporting Standards (PFRS). *Pre-req: BUSED063; Co-req: None*

ACElec-2 - Human Behavior in Organizations   **3 units**

This course introduces the students to the factors affecting the behavior of individuals and groups in an organization focusing on the specific factors that tend to explain behavior of individuals, groups, and organizations. Various theories and models of organizational behavior, work group behavior, motivation in life and work, and human relations among others are discussed and related to organizational practices and phenomena. *Pre-req: BUSED063; Co-req: None*

ACELEC-3 - Operations Auditing   **3 units**

This course will prepare the students determine the reliability of financial and operational reporting, assess the economy, efficiency and effectiveness of the business operations, and verify that the organization's assets are being properly used and safeguarded. The course will help students verify that internal controls are operating as intended and to determine if processes are efficient and support objectives of the organization. *Pre-req: ACCT123; Co-req: None*

ACELEC-4 - Valuation Concepts and Methods   **3 units**

This course is designed to enhance the students' ability to report and analyze financial information. Students will gain ability to evaluate a company's current financial position, assess operating performance, and identify alternate courses of action. The course covers all major topics for valuing businesses, analytical methodologies, and practical applications both for transactions and business management. *Pre-req: BUSED063; Co-req: None*

PROGRAM DESCRIPTION

BACHELOR OF SCIENCE IN BUSINESS ADMINISTRATION MAJOR IN MARKETING MANAGEMENT

The Marketing Management Program prepares the graduate for careers in marketing, market research, advertising and public relations. The curriculum provides the graduate with both technical skills and competencies required in the field, but also the flexible mindset that is necessary to stay competitive in a constantly changing business environment.

Program Educational Objectives

Bachelor of Science in Business Administration major in Marketing Management (BSBA MKM) aims to train individuals to become competent and ethical marketing and management practitioners. Three to five years after graduation, the BSBA MKM alumni shall:

1. Assume supervisory and/or managerial responsibilities within their organization;
2. Pursue graduate studies in business and management;
3. Manage a business;
4. Develop and implement a comprehensive marketing plan for any type of product, service or business competently and guided by Christian values and ethical practices;
5. Serve the greater good by creating innovative and beneficial products and services for the Filipino people;
6. Utilize the marketing mix to solve marketing problems and identify marketing opportunities;
7. Conduct marketing research and utilize marketing intelligence system in organizing people and resources to create value.
8. Contribute to the economic development as responsible partners of the government and stakeholders through managing and/or establishing income generating centers where they portray the roles of strategic business partners and change agents and/or consultants, as entrepreneurs, or managers in government agencies such as those in trade and industries; and
9. Impart and share expertise to those in the academe and those pursuing continuing professional development.

Program Outcomes and Performance Indicators

Upon completion of the Bachelor of Science in Business Administration major in Marketing Management (BSBA MKM) program, the graduate, who is trained in a culture of conscience and excellence with Filipino, Dominican, and Christian in orientation, must be able to:

Program Outcomes	Performance Indicators
1. Articulate and discuss the latest developments in the specific field of practice	• Engage in continual learning in one's specialization

2. Effectively communicate orally and in writing using English, Filipino, mother tongue language, and an appropriate Foreign Language required by the industry	• Express oneself clearly in verbal or written forms the updates in one's career or vocation • Convey positive Filipino values in one's decisions and actions
3. Preserve and promote Filipino historical and cultural heritage (based on RA No. 7722)	• Demonstrate responsible Filipino citizenship in local, national or international communities
4. Participate in various types of employment, development activities, and public discourses, particularly in response to the needs of the communities one serves	• Plan and take action for the welfare of the community • Continually engage oneself in development projects and activities that address the community needs
5. Manifest strong commitment and conviction to the Christian and Dominican teachings and philosophy in thoughts, words, and deeds	• Observe the Dominican values of study, prayer, community, and service • Uphold ecological consciousness and engage in environmental stewardship • Participate actively in the community's spiritual and social advocacy or extension program
6. Perform the basic functions of management such as planning, organizing, leading, and controlling	• Prepare comprehensive strategic business plan • Develop and defend a business development plan that incorporate relevant inputs such as laws, market research and feasibility study, product development, among others • Assume leadership role in business management activities

7. Apply the basic concepts that underlie each of the functional areas of business (marketing, finance, human resources management, production and operations management, information technology, and strategic management) and employ these concepts in various business situations	• Apply the concept of management to assess and formulate operational plan • Employ essential strategy-related components and principles for decision making • Evaluate the merits and implications of selected case studies pertaining to various aspects of business operations • Conduct qualitative interpretations and analyses anchored on the evaluated case studies to draw up insightful strategic business conclusions
8. Select the proper decision making tools to critically, analytically and creatively solve problems and drive results	• Apply appropriate quantitative tools to address a business case problem • Apply sound solution to problems encountered in business operations
9. Apply information and communication technology (ICT) skills as required by the business environment	• Prepare a social media marketing plan • Create business promotional activities using technology application • Apply technical knowledge on an ERP system commonly used in the industry • Utilize digital technology to solve pertinent business challenges
10. Work effectively with other stakeholders and manage conflict in the workplace	• Perform well as a team leader or member in any kind of group project or activity • Perform independently and cooperatively to accomplish worthwhile goals • Conduct a planning and problem-solving meeting to resolve issues in business event

	• Engage in activities that promote teamwork • Apply business ethics in dealing with stakeholders
11. Plan and implement business related activities	• Develop and defend a business plan incorporating sales and marketing principles and financial analysis • Identify methods, techniques, and devices appropriate in an organization in business implementation and process • Engage in entrepreneurial management • Explain the path of securing business permits – theoretically and practically – should an enterprise become viable and implementable
12. Demonstrate corporate and social responsibility	• Propose social responsibility strategies and compliance action plan for a business • Apply appropriate CSR technique in decision making • Participate in a corporate and social responsibility endeavor
13. Exercise high personal, moral, and ethical standards	• Exhibit honesty, fairness, equity, and good faith in transacting in business • Promote good governance practices in the conduct of one's business • Apply ethics in business endeavors. • Maintain stature and behavior that uphold the Professional Code of Ethics • Immerse in an actual working environment in industry

14. Analyze the business environment for strategic direction	• Prepare market needs analysis • Prepare strategic marketing management plan based on 4C's assessment: Context (PEST), Customers, Competitors, and Company
15. Prepare operational plans	• Prepare product/service specifications plan • Prepare sales force operational plan: budget forecast, territory design, and sales force size
16. Innovate business ideas based one merging industry	• Prepare business expansion plan • Prepare business diversification plan • Prepare strategic plan based on marketing research
17. Manage a strategic business unit for economic sustainability	• Prepare environment impact and mitigation plan • Prepare New Business and Market Penetration plan • Prepare New Business Development plan
18. Conduct business research	• Conduct project feasibility study • Conduct environmental scanning • Conduct competitive benchmarking

BACHELOR OF SCIENCE IN BUSINESS ADMINISTRATION
Major in MARKETING MANAGEMENT
GENERAL SUMMARY OF COURSES

I. General Education Courses

A. Core Courses   **24**

GEC003	Understanding the Self	3
GEC013	Science, Technology, and Society	3
GEC023	Mga Babasahin Hinggil sa Kasaysayan ng Pilipinas	3
GEC033	Mathematics in the Modern World	3
GEC043	The Contemporary World	3
GEC053	Art Appreciation	3
GEC063	Purposive Communication	3
GEC073	Ethics	3

B. CHED Mandated Courses   **26**

a. Rizal Course

RZL023	Buhay at Mga Akda ni Rizal	3

b. Physical Education Courses

PATHFIT1002	Movement Competency Training	2
PATHFIT2022	Exercise Based Fitness Activities	2
PATHFIT3032	Individual/Dual Sports	2
PATHFIT4042	Contemporary Dance	2

c. National Service Training Program

NSTP1-18	National Service Training Program 1	3
NSTP2-18	National Service Training Program 2	3

d. GENED Elective Courses

GECELEC1	Living in the IT Era	3
GECELEC2	The Entrepreneurial Mind	3
GECELEC3	Philippine Pop Culture	3

C. Institutional Mandated Courses   **18**

a. Religious Education Courses

RELED053	The Catholic Christian Faith	3
RELED063	Contemporary Issues in Christian Marriage	3
RELED073	Contemporary Issues About Church and Human Society with Immersion	3
RELED083	Christian Ethics	3

b. Letran Quality Enrichment Courses

LQEC23-013	Letran Quality Enhancement Course I (Letran Calamba Identity and 21st Century Learning	3
LQEC23-023	Letran Quality Enhancement Course II (21st Century Literacy Skills & Life Skills and	3

II. Common Business and Management Courses   <u>**9**</u>

MNGT123	Financial Management	3
MNGT253	Strategic Management	3
MNGT263	Operations Management (TQM)	3

III. Business Administration Core Courses   <u>**27**</u>

BLW063	Business Law (Obligations and Contracts)	3
BusEd083	Good Governance and Social Responsibility	3
BUSRES013	Business Research	3
ECO023B	Basic Microeconomics	3

MKMT-FSA	Feasibility Study I (Research Proposal)	3
MKMT-FSB	Feasibility Study II (Presentation and Submission of Research Paper)	3
MNGT053	Human Resource Management	3
MNGT273	International Business and Trade	3
TAX013B	Income Taxation	3

IV. Professional Major Courses — **36**

MKMT013	Consumer Behavior	3
MKMT023	Advertising	3
MKMT033	Marketing Research	3
MKMT043	Professional Salesmanship	3
MKMT053	Marketing Management	3
MKMT063	Strategic Marketing Management	3
MKMT073	Retail Management	3
MKMT083	Product Management	3
MKMT093	Distribution Management	3
MKMT103	Sales Management	3
MKMT113	Pricing Strategy	3
MKMT123	Digital Marketing	3

V. Electives — **12**

MKMT-ELEC1	Entrepreneurial Management	3
MKMT-ELEC3	International Marketing	3
MKMT-ELEC4	Special Topics in Marketing	3
MKMT-ELEC5	E-commerce with Business Data Analytics	3

VI. Internship — **6**

| MKMT-PRC6-L | Internship (600 hrs) | 6 |

TOTAL UNITS 158

BACHELOR OF SCIENCE IN BUSINESS ADMINISTRATION
Major in MARKETING MANAGEMENT
Curriculum Year 2023-2024

COURSE CODE	COURSE TITLE	Lec Units/Hrs	Lab Units	Hrs	TOTAL	PRE-REQUISITES/ CO-REQUISITES
FIRST YEAR, First Semester						
BLW063	Business Law (Obligations and Contracts)	3			3	
ECO023B	Basic Microeconomics	3			3	
GEC003	Understanding the Self	3			3	
GEC023	Mga Babasahin Hinggil sa Kasaysayan ng Pilipinas	3			3	
GEC033	Mathematics in the Modern World	3			3	
GEC043	The Contemporary World	3			3	
LQEC23-013	Letran Quality Enrichment Course I (Letran Calamba Identity and 21st Century Learning Skills)	3			3	
RELED053	The Catholic Christian Faith	3			3	
	Total	24	0	0	24	
FIRST YEAR, Second Semester						
GEC013	Science, Technology, and Society	3			3	
GEC063	Purposive Communication	3			3	
GECELEC1	Living in the IT Era	3			3	
MKMT013	Consumer Behavior	3			3	
MNGT053	Human Resource Management	3			3	
NSTP1-18	National Service Training Program 1	3			3	
PATHFIT1002	Movement Competency Training	2			2	
RELED063	Contemporary Issues in Christian Marriage	3			3	RELED053
	Total	23	0	0	23	
SECOND YEAR, First Semester						
BUSED083	Good Governance and Social Responsibility	3			3	BLW063
GECELEC2	The Entrepreneurial Mind	3			3	
MKMT043	Professional Salesmanship	3			3	
MKMT053	Marketing Management	3			3	MKMT013
NSTP2-18	National Service Training Program 2	3			3	NSTP1-18
PATHFIT2022	Exercise-Based Fitness	2			2	PATHFIT1002
RELED083	Christian Ethics	3			3	RELED053
RZL023	Buhay at Gawa ni Rizal	3			3	
	Total	23	0	0	23	

BACHELOR OF SCIENCE IN BUSINESS ADMINISTRATION
Major in MARKETING MANAGEMENT
Curriculum Year 2023-2024

COURSE CODE	COURSE TITLE	Lec Units/Hrs	Lab Units	Lab Hrs	TOTAL	PRE-REQUISITES/ CO-REQUISITES
SECOND YEAR, Second Semester						
GEC053	Art Appreciation	3			3	
GEC073	Ethics	3			3	
GECELEC3	Philippine Popular Culture	3			3	
LQEC23-023	Letran Quality Enrichment Course II (21st Century Literacy Skills & Life Skills and Sustainability)	3			3	LQEC23-013
MKMT073	Retail Management	3			3	MKMT013, co-req MKMT083
MKMT083	Product Management	3			3	MKMT013, co-req MKMT073
MKMT-ELEC1	Entrepreneurial Management	3			3	GECELEC2
PATHFIT3032	Individual /Dual Sports	2			2	PATHFIT1002, PATHFIT2022
	Total	**23**	**0**	**0**	**23**	
THIRD YEAR, First Semester						
MKMT033	Marketing Research	3			3	BLW063, BUSED083, MKMT043
MKMT093	Distribution Management	3			3	MKMT053
MKMT103	Sales Management	3			3	MKMT043
MNGT253	Strategic Management	3			3	MNGT053
MNGT273	International Business and Trade	3			3	BLW063
PATHFIT4042	Contemporary Dance	2			2	PATHFIT1002, PATHFIT2022
RELED073	Contemporary Isues About Church and Human Society with Immersion	3			3	RELED053
	Total	**20**	**0**	**0**	**20**	
THIRD YEAR, Second Semester						
BUSRES013	Business Research	3			3	MKMT033, co-req MKMT-FSA
MKMT023	Advertising	3			3	MKMT053, MKMT073
MKMT113	Pricing Strategy	3			3	MKMT083
MKMT123	Digital Marketing	3			3	MKMT033, MKMT083
MKMT-ELEC5	E-commerce with Business Data Analytics	3			3	MKMT083
MKMT-FSA	Feasibility Study I (Research Proposal)	3			3	MKMT033, co-req BUSRES013
MNGT263	Operations Management (TQM)	3			3	MNGT253
	Total	**21**	**0**	**0**	**21**	

BACHELOR OF SCIENCE IN BUSINESS ADMINISTRATION
Major in MARKETING MANAGEMENT
Curriculum Year 2023-2024

COURSE CODE	COURSE TITLE	Lec Units/Hrs	Lab Units	Lab Hrs	TOTAL	PRE-REQUISITES/ CO-REQUISITES
FOURTH YEAR, First Semester						
MKMT063	Strategic Marketing Management	3			3	MKMT053, MKMT103, MNGT253
MKMT-ELEC3	International Marketing	3			3	MKMT033, MKMT043, MKMT113
MKMT-ELEC4	Special Topics in Marketing	3			3	MNGT253
MKMT-FSB	Feasibility Study II (Presentation and Submission of Research Paper)	3			3	MKMT-FSA
MNGT123	Financial Management	3			3	MKMT053, MKMT103, MNGT253
TAX013B	Income Taxation	3			3	BLW063, GEC033
	Total	**18**	**0**	**0**	**18**	
FOURTH YEAR, Second Semester						
MKMT-PRC6-L	*Internship (600 hrs)	0	6		6	MKMT043, MKMT063, MKMT-FSB
	Total	**0**	**6**		**6**	
	GRAND TOTAL	**152**	**6**	**0**	**158**	

Practicum/Internship - No simultaneous enrollment is allowed.

COURSE DESCRIPTION

I. GENERAL EDUCATION COURSES

A. CORE COURSES

GEC003 - Understanding the Self   **3 units**

The course discusses the nature of identity, its factors and forces that affect the development and maintenance of personal identity. It is intended to facilitate the exploration of the issues and concerns regarding self and identity to arrive at a better understanding of one's self. It strives to meet this goal by stressing the integration of the personal with the academic — contextualizing matters discussed in the classroom and in the everyday experiences of students — making for better learning, generating a new appreciation for the learning process, and developing a more critical and reflective attitude while enabling them to manage and improve their selves to attain a better quality of life.

This also includes mandatory topics on Family Planning and Population Education. *Pre-req: None; Co-req: None*

GEC013 - Science, Technology, and Society   **3 units**

The course deals with interactions between science and technology and social cultural, political, and economic contexts, which shape and are shaped by them.

The interdisciplinary course engages students to confront the realities brought about by science and technology in society. Such realities pervade the personal, the public, and the global aspects of our living and are integral to human development. Scientific knowledge and technological development happen in the context of society with all its socio-political, cultural, economic, and philosophical underpinnings at play. This course seeks to instill reflective knowledge in the students that they are able to live the good life and display ethical decision making in the face of scientific and technological advancement.

This also includes discussion of climate change and environmental awareness as well as the implementation of the different environmental protection laws. *Pre-req: None; Co-req: None*

GEC023 - Mga Babasahin Hinggil sa Kasaysayan ng Pilipinas   **3 units**

Ang kursong ito ay tumatalakay sa mga piling primaryang sanggunian ukol sa iba't ibang yugto ng kasaysayan ng Pilipinas, pagsusuri at interpretasyon. Isasama din ang pagtalakay sa konstitusyon ng Pilipinas simula sa taong 1899 hanggang sa taong 1987. Ganun din ang pagtalakay sa repormang agraryo. Gayundin ang pagtalakay sa pagbubuwis bilang instrumento ng pamahalaan. Ito ay may kaugnayan sa tibay ng pagbubuwis bilang isa sa tatlong kapangyarihan ng pamahalaan na nakasaad sa Saligang Batas taong 1987. *Pre-req: None; Co-req: None*

GEC033 - Mathematics in the Modern World   **3 units**

The course discusses the nature of Mathematics, appreciation of its practical, intellectual, and aesthetic dimensions, and application of mathematical tools in daily life. *Pre-req: None; Co-req: None*

GEC043 - The Contemporary World
3 units

The course discusses globalization and its impact on individuals, communities and nations, challenges and responses. It introduces students to the contemporary world by examining the multifaceted phenomenon of globalization. Using the various disciplines of the social sciences, it examines the economic, social, political, technological, and other transformations that have created an increasing awareness of the interconnectedness of people and places around the globe. It provides an overview of the various debates in global governance, development, and sustainability. Beyond exposing the student to the world outside the Philippines, it seeks to inculcate a sense of global citizenship and global ethical responsibility.

This also includes mandatory topics on population education in the context of population and demography. *Pre-req: None; Co-req: None*

GEC053 - Art Appreciation
3 units

The course discusses the nature, function and appreciation of the arts in contemporary society. It intends to develop students' ability to appreciate, analyze, and critique works of art. Through interdisciplinary and multimodal approaches, this course equips students with a broad knowledge of the practical, historical, philosophical, and social relevance of the arts. This will hone their ability to articulate their understanding of the arts. It will also develop students' competency in researching and curating arts as well as conceptualizing, mounting, and evaluating art productions. The course aims to develop students' genuine appreciation for Philippine arts by providing them opportunities to explore the diversity and richness and their rootedness in Filipino culture. *Pre-req: None; Co-req: None*

GEC063 - Purposive Communication
3 units

The course discusses writing, speaking and presenting to different audiences and for various purposes. It develops students' communicative competence and enhances their cultural and intercultural awareness through multimodal tasks that provide them opportunities for communicating effectively and appropriately to a multicultural audience in a local or global context. It equips students with tools for critical evaluation of a variety of texts and focuses on the power of language and the impact of images to emphasize the importance of conveying messages responsibly. *Pre-req: None; Co-req: None*

GEC073 – Ethics
3 units

This course covers the context and tenets of ethical behavior in modern society including how individuals and communities interact with the environment and other common resources. It helps one to enhance their grasp of ethics and moral reasoning through the study of numerous theoretical viewpoints and moral experiences that make up so much of the core of daily life. By the end of the course, students should be able to articulate why and how people are seen as moral beings existing in a moral universe with a responsibility to protect themselves, one another, and the environment for everyone. *Pre-req: None; Co-req: None*

B. GENERAL EDUCATION ELECTIVE COURSES

GECELEC1 - Living in the IT Era   **3 units**
This general education elective course discusses how information technology shaped that way of life in the modern era. It discusses the science, culture and ethics information technology as well as how it affects contemporary life and interpersonal interactions and the way it may be used to promote one's social, professional, and personal goals. *Pre-req: None; Co-req: None*

GECELEC2 - The Entrepreneurial Mind   **3 units**
This general education elective course focuses on the nature and fundamentals of entrepreneurship as well as its societal responsibilities and repercussions. It is designed to assist students comprehend the business environment and encourage individuals adopt and innovative mindset. *Pre-req: None; Co-req: None*

GECELEC3 - Philippine Popular Culture   **3 units**
This general education elective course focuses on the emerging potential and expectation of mass audiences, markets and mass media, as well as their social, economic, and political settings, in the field of art, music, and literature. By the completion of the course, students should be able to demonstrate their appreciation of traditional and modern cultural expressions of as well as identify, analyze and develop trends in Philippine culture that have been inspired by various internal and external influences. *Pre-req: None; Co-req: None*

C. CHED MANDATORY COURSES

RZL023 - Buhay at Mga Akda ni Rizal   **3 units**
Ito'y isang pag-aaral sa buhay at gawa ni Gat. Jose Rizal at ang kaugnayan at kahalagahan sa nilalaman ng pangkasaysayang pagsulong ng lipunang Pilipino. Gamit ang istratehiyang 'Dambana" kung saan ang mag-aaral ay maglalaan ng panahon sa Bahay-Rizal sa Calamba, ang mag-aaral ay magiging kabahagi ng Rizal Shrine staff sa edukasyong pangkasaysayan ng mga panauhin sa Bahay-Rizal. *Pre-req: None; Co-req: None*

D. INSTITUTIONAL MANDATED COURSES

LQEC23-013 - Letran Quality Enrichment Course I (Letran Calamba Identity and 21st Century Learning Skills)   **3 units**
LQEC 1 is an enhancement course that is designed to introduce the identity of Colegio de San Juan de Letran Calamba including its history, Dominican spirituality, mission, vision, quality objectives, policies , processes and services. It also introduces the "Four Cs" of 21st Century Learning: Critical Thinking, Creativity, Collaboration and Communication that aims to enhance students' knowledge and awareness of the essential communication concepts and establish deep comprehension of the processes in a creative manner.
Furthermore, it helps the learners to formulate logical and well-thought-out reasoned judgments and promote active engagement with others to achieve a common goal. *Pre-req: None; Co-req: None*

LQEC23-023 - Letran Quality Enrichment Course II (21st Century Literacy Skills & Life Skills and Sustainability) 3 units

LQEC 2 is an enhancement course that is designed to provide basic understanding about leadership, flexibility, initiative, social skills and productivity. It also introduces digital literacy which focuses on fundamental understanding of media, technology, and information as tools for communication and the advancement of people and communities.

Moreover, the course also introduces the concept of Environment, Social, and Governance (ESG) which determines an organization's commitment to sustainability. All of these are necessary to help the learners become competitively employable in the future of work. *Pre-req: LQEC23-013; Co-req: None*

RELED053 - The Catholic Christian Faith 3 units

This course deals with the basic Catholic Christian Doctrine. It highlights the 12 articles of faith in the Apostles Creed, as well as the Sacred Scripture. Thus it guides the students to a life of truth, fidelity and worship to God. *Pre-req: None; Co-req: None*

RELED063 - Contemporary Issues in Christian Marriage 3 units

Contemporary Issues in Christian Marriage is a three unit academic subject. The emphasis of the course is on Marriage and Family presented as a vocation and a sacrament. The study prepares the students for the reception of the sacrament and achievement of a better outlook on the realities and complexities of the married state and family life. *Pre-req: RELED053; Co-req: None*

RELED073 - Contemporary Issues About Church and Human Society with Immersion 3 units

Contemporary Issues About Church and Human Society with Immersion is a three unit academic subject. This course studies the seven themes of the social teachings of the Catholic Church. It also tackles contemporary social issues which hamper the development of our country. An integral part of the course is Makipamuhay, a learning strategy that allows students to experience direct contact with the oppressed in society specifically the rural poor and leads them to develop personal as well as communal witnessing to authentic Christian faith. *Pre-req: RELED053; Co-req: None*

RELED083 - Christian Ethics 3 units

This course presents the foundations and fundamentals of Christian Ethics and their application to issues and concerns related to the Ten Commandments. *Pre-req: RELED053; Co-req: None*

E. PHYSICAL EDUCATION COURSES

PATHFIT1002 - Movement Competency Training 2 units

This course provides training in different movement and core engagement in conjunction with principles of healthy and physical active life. Students will be able to adopt and transfer the movement competency in different contexts. Pre-req: None; Co-req: None

PATHFIT2022 - Exercise-Based Fitness 2 units

This course provides experiences in core stability, strength, and mobility training. It includes goal setting exercise progression and regression and periodic assessment for the development of various fitness component. *Pre-req: PATHFIT1002; Co-req: None*

PATHFIT3032 - Individual/Dual Sports
2 units

This course puts emphasis on gaining basic knowledge of individual/dual sports, fitness and lifetime activities. It also includes different kinds of individual/dual sports. Students will learn the skills and game strategies for each sport as well as their historical background and terminology. Activities promote participation in physical activity to achieve good health and wellness. *Pre-req: PATHFIT1002, PATHFIT2022; Co-req: None*

PATHFIT4042 - Contemporary Dance
2 units

This course provides the students the foundations of contemporary dance technique and execution. It focuses on various movement concepts at each level, particularly designed solos, and the integration of organized improvisation to provide students, the opportunity to explore and come up with their own movement language. It encourages creativity by fusing elements of jazz, modern dance, lyrical dance, classical ballet, and other disciplines. *Pre-req: PATHFIT1002, PATHFIT2022; Co-req: None*

F. NATIONAL SERVICE TRAINING PROGRAM

NSTP1-18 - National Service Training Program 1
3 units

The National Service Training Program 1 is a curricular offering consisting of lectures and trainings on citizenship, values education, environment and drug education, disaster management, transformational leadership, dimensions of development and literacy and numeracy skills aimed to empower the youth as potential community leaders toward national development. *Pre-req: None; Co-req: None*

NSTP2-18 - National Service Training Program 2
3 units

The National Service Training Program 2 is a sequel to NSTP1. This course is designed to equip the students with the fundamentals of project identifications, planning implementation and evaluation which include but is not limited to lecture and training on social mobilization, community development, and community service. The students are required to undergo the process of community immersion in pursuit of applying the concepts learned in contributing to the general welfare of in the Colegio's partner communities. *Pre-req: NSTP1-18; Co-req: None*

II. PROFESSIONAL COURSE

A. BUSINESS ADMINISTRATION CORE AREAS

BLW063 – Business Law (Obligations and Contracts)
3 units

This course gives the student an understanding of the legal concepts and rules governing the law of obligations and contracts and application of these concepts to practical problems. It involves a discussion of the nature, sources, kinds, and extinguishments of contracts including defective contracts and other miscellaneous topics relevant to the course. (Adopted from previous CMO 3, series of 2007). *Pre-req: None; Co-req: None*

BusEd083 - Good Governance and Social Responsibility
3 units

The course focuses on the basic concepts, principles, frameworks and practices of social responsibility and governance. It analyses the business frameworks and guides social responsibility and governance practice. It combines theory with field experience aimed at inspiring young leaders to become responsible citizens and entrepreneurs. It articulates the role of organizations/business in responding to the socio-economic and political realities present in its external environment; explores the impact of globalization on the practice of social responsibility and governance; and examines the role of students as citizens and future leaders in advocating social responsibility and good governance anchored on values. It includes utilization of theories, frameworks and models of social responsibility and good governance in the conceptualization of business/organizational practices. *Pre-req: BLW063; Co-req: None*

BUSRES013 - Business Research
3 units

This course will involve the conduct of a business research/plan and apply a systematic inquiry that will help to solve business problems and contributes to management knowledge. This course will have a series of lectures by invited resource persons in all aspects of research in business management. The student will be required to present a research proposal. *Pre-req: MKMT033 Co-req: MKMT-FSA*

ECO023B - Basic Microeconomics
3 units

The course introduces the three pillars of economic analysis (choice, scarcity, and coordination) and the mathematical techniques that economist use to represent these ideas (optimization, equilibrium, and adding-up constraints). Most of the course is devoted to "price theory" which is the analysis of the role that price plays in facilitating coordination on a market economy. The last part of the course deals with situations where coordination through prices may not result in desirable outcomes. The course allows to develop students' ability to express these concepts using graphs, mathematics (particularly Calculus), and plain English, and to be able to switch fluently between these three modes of expression. *Pre-req: None; Co-req: None*

MNGT053 - Human Resource Management
3 units

This course deals with the study of different functions of Human Resource Department, different problems and issues arising from the implementation of these functions, and how these functions contribute to the effective use of people in order to attain organizational goals and enhance the personal dignity, satisfaction, and well-being of employees. *Pre-req: None; Co-req: None*

MNGT253 - Strategic Management
3 units

The aim of this course is to provide students with a broad overview of the basic concepts in strategic management. The students will be expose to a number of frameworks and models to better understand and analyze the macro-environment, the industry environment, and firm level resources. The end goal is for the students to be able to think strategically, as opposed to only having a functional orientation, and to formulate and to implement creative and innovative strategies that are conducive to the demands of the firm and the environment in which it resides. *Pre-req: MNGT053; Co-req: None*

MNGT263 - Operations Management (TQM)   3 units
This course examines the subject of production and operations management (POM) and discusses its importance to the overall strategy and competitiveness of a firm in addition, this course focuses on specific tools used to manage and enhance a firm's operations and production, such as facility layout, product design, aggregate planning, inventory management, and forecasting. Other topics include process analysis and selection operations scheduling, quality management and statistical quality control and project management. *Pre-req: MNGT253; Co-req: None*

MNGT273 - International Business and Trade   3 units
This course covers topics in international trade agreements, trade policies and restrictions, counter trade, world trade, tariff, foreign exchange, and balance of payments. This course provides materials to students to enable them to capsulize their knowledge of international trade especially entered into by ASEAN member nations. The course also equips students with fundamental knowledge on trade among nations in preparation for globalization. *Pre-req: BLW063; Co-req: None*

MNGT123 – Financial Management   3 units
This course covers decision level responsibility for fund generation, fund allocation, capital structuring, and profit supervision. Emphasis is laid on long term financial planning, the distribution of capital, directing its use, assessing the management's use of capital and taking remedial action in managing the capital. *Pre-req: MKMT053, MKMT103, MNGT253; Co-req: None*

TAX013B - Income Taxation   3 units
This course is primarily concerned with income taxation. The objective is to develop a working knowledge of the principles and rules of the income tax system as these apply to individuals, partnerships, and corporations. It covers an overview of the national tax system, and the income, taxation of employees and various business entities. It provides the students with knowledge of the capital gains tax, final tax on certain passive income, and the year-end tax including the minimum corporate income tax, the normal tax, and the improperly accumulated profits tax of corporations and withholding taxes. Tax forms are provided for specific topics discussed. *Pre-req: BLW063, GEC033; Co-req: None*

B. MARKETING MANAGEMENT PROFESSIONAL COURSES

MKMT013 - Consumer Behavior   3 units
This course involved a study of consumer behavior as a tool for marketing decision. It describes the rationale for studying, the consumer behavior outcomes, and the consumer behavior process: the psychological core, the process of making decisions, and the post-decisions evaluation. Consumer culture, consumer behavior outcomes and issues concerning consumer welfare is also discussed. *Pre-req: None; Co-req: None*

MKMT023 - Advertising   3 units

This course aims to provide thorough understanding about Advertising and the real world. It will help the students analyze marketing/advertising opportunities and will be able to know the process in creating and advertising plans. This course discusses details about advertising foundation and environment, advertising media, and creating advertisements. This will introduce students to the richness and variety of the advertising world. *Pre-req: MKMT053, MKMT073; Co-req: None*

MKMT033 - Marketing Research   3 units

This course deals with the study of planning, collection and analysis of data relevant to marketing decision making and communicating the results of this analysis to management. It further deals with the function which consumer, customer and public to the marketer through information that is used to identify and define marketing opportunities and problems; generate, refine and evaluate marketing actions; monitor marketing performance and improve understanding of marketing as a process. *Pre-req BLW063, BUSED083, MKMT043; Co-req: None*

MKMT043 - Professional Salesmanship   3 units

This course will put selling on a professional basis – that takes into account the demands of changing times, advanced technologies, new products, and sophisticated buyers. *Pre-req: None; Co-req: None*

MKMT053 - Marketing Management   3 units

This course covers the nature, importance and techniques on sales management. The organization and the different aspects of organizing and strategic planning for selecting applicants for an effective sales force are also emphasized. This also discusses planning for effective marketing. *Pre-req: MKMT013; Co-req: None*

MKMT063 - Strategic Marketing Management   3 units

The course introduces student to the process of developing and managing marketing strategy, examining how firms create and sustain customer value – from market analysis and product positioning to communications and channel systems design. *Pre-req: MKMT053, MKMT103, MNGT253; Co-req: None*

MKMT073 - Retail Management   3 units

This course provides the students with a comprehensive view of retailing and an application of marketing concepts in a practical retail managerial environment. We will analyze the current multi-channel retail strategies among bricks-and-mortar and web-based firms. Retailing is changing today, and the successful business will know how to identify, adapt, and plan with the changes, without moving away from its core competencies. We will consider: the development of a retail format and its strategy, the analysis of a target market, demographic analysis related to site selection, retail personnel issues, and category management. Buying, financial analysis, and pricing will also be investigated. *Pre-req: MKMT013; Co-req: MKMT083*

MKMT083 - Product Management
3 units

The course discusses product management that deals with all of end-to-end aspects of a product or product line including product profitability. It deals with the study of classification of products; and product feature decisions (branding, labeling, packaging, style, color, warranty, quality and post-sale services). It also discusses the challenges, the rationale and the stages in introducing new products and managing different product life cycles. The management of product in form of services is also studied in the course. *Pre-req: MKMT013; Co-req: MKMT073*

MKMT093 - Distribution Management
3 units

This course covers the principles and functions of distribution management, the roles of marketing channels and physical distribution in the marketing system, the cost implications of management decisions involving distribution. The course aims to crystalize students' understanding of distribution cost analysis through their involvement in exercises and actual projects in the area of distribution management. *Pre-req: MKMT053; Co-req: None*

MKMT103 - Sales Management
3 units

This course relates to the principles of sales management functions. The subject covers the functions and methods of recruiting, selecting, training, motivating, equipping, compensating, controlling, and supervising salesmen. Understand the nature of the scope of work of an executive responsible for group sales persons tasked to promote and sell a particular product; understand and discover new selling techniques in a highly competitive and technologically advanced marketing environment. The student will learn to prepare a sales program for a given product; beginning with the launching stage until the full cycle has been completed, integrating therein his social responsibilities towards consumers and other sectors of society.
Pre-req: MKMT043; Co-req: None

MKMT113 – Pricing Strategy
3 units

This course discusses principles and practices of pricing and services in the context of managerial decision-making and marketing strategy formulation. *Pre-req: MKMT083; Co-req: None*

MKMT123 - Digital Marketing
3 units

This course provides the students with a comprehensive view of digital marketing concepts in a highly technological business environment. The key objective of this course is to equip the students in promoting brands through various forms of digital media. *Pre-req: MKMT033, MKMT083; Co-req: None*

MKMT-FSA- Feasibility Study I (Research Proposal)
3 units

This course deals with the preparation of a feasibility study. Series of lectures in business management is conducted to guide the students in the preparation of their feasibility study. The students will be required for a proposal defense. *Pre-req: MKMT033; Co-req: BUSRES013*

MKMT-FSB – Feasibility Study II (Presentation and Submission of Research Paper)   **3 units**

This course is a continuation of MKMT-FSA (Feasibility Study 1). The students will be required to defend the results of their feasibility study. *Pre-req: MKMT-FSA; Co-req: None*

MKMT-PRC6 - Internship (600hrs)   **6 units**

The student will be required to do an on-the-job training (OJT) with any office or company specifically on the sales and marketing aspect. The student will be evaluated by the supervisor/manager to whom he/she is directly reporting. At the end of the course, he/she should submit a report indicating recommendations for improvement of the company with which he/she has worked. *Pre-req: MKMT043, MKMT063, MKMT-FSB; Co-req: None*

MKMT-ELEC1 - Entrepreneurial Management   **3 units**

The course aims to teach the approach entrepreneurs use in identifying opportunity and creating new ventures; the analytic skills that are needed to practice this approach; and the background knowledge and managerial skills that are necessary for dealing with the recurring issues involved in starting, growing, and harnessing the value of new ventures. *Pre-req: GECELEC; Co-req: None*

MKMT-ELEC3 - International Marketing   **3 units**

This course is intended to familiarize the students with the principles and practices of global marketing. The topics include the scope and challenges of international marketing, the cultural environment of global marketing management, and corporate context of marketing. *Pre-req: MKMT033, MKMT043, MKMT113; Co-req: None*

MKMT-ELEC4 - Special Topics in Marketing   **3 units**

The course covers range of major issues that have impact on sales and marketing. This may be done on a modular approach, symposia and seminars; and shall dwell on current issues and trends, government and non-government developments that affect marketing including domestic and international concerns. *Pre-req: MNGT253; Co-req: None*

MKMT-ELEC5 – E-Commerce with Business Data Analysis   **3 units**

The course provides the students with comprehensive view of E-Commerce and will prepare the students to lead in analytics-driven organizations. It will include hands-on work with data and software. Topics to be covered include data manipulation, predictive analytics, decisions under uncertainty, and decision analytics tools (linear and nonlinear optimization). *Pre-req: MKMT083; Co-req: None*

SCHOOL OF ENGINEERING AND ARCHITECTURE

Vision

We envision Letran Calamba School of Engineering and Architecture as a dynamic school and center of excellence in engineering, architecture education and technology.

Mission

We commit ourselves to produce God-centered, loyal to the country, locally and globally competitive Letranite engineers and architects through quality curricular programs and facilities, and competent and committed personnel.

PROGRAM DESCRIPTION

Bachelor of Science in Industrial Engineering is an engineering profession that is concerned with the optimization of complex processes, systems and organizations by developing, improving and implementing integrated systems. It uses several Industrial Engineering principles followed in a manufacturing industry to ensure the effective flow of the system, processes and operations. This includes the Lean Manufacturing, Six Sigma, Information Systems, Process Capability and Define, Measure, Analyze Improve and Control (DMAIC). The overall focus is to design things that are more efficient, increases productivity and waste less money, time, manpower and other resources.

The Industrial Engineering programs have gained accreditation Level III status by the Philippine Association of Colleges and Universities Commission on Accreditation (PACUCOA) from Colegio's endeavor to provide the student a quality education. The program offers a wide range of Outcome-Based Education courses that would equipped the learners with skills and competencies they will need in the industry and become lifelong learners and glocally competent and critical thinker leaders.

The Industrial Engineering program provide their students an advanced knowledge of production machinery, processes and standards from Industrial Material s and Processes, Systems Engineering, Operations Management, Ergonomics, Work Study and Measurement, and Operations Research courses. They will acquire the important IE tools and principles they will need from the Elective courses Product Design, Total Productive Maintenance and Lean Manufacturing. The program also offers their students the opportunity to practice their chosen field to the Colegio's Host Training Establishment Partner to give their students the practical exposure in the industry.

Industrial Engineering graduates will have career opportunities in areas like Production Operations and Management, Logistics Engineering, Supply Chain Management, Warehouse Management and Distribution, Human Factors Engineering or Ergonomics, Demand Forecasting and also to other pertinent areas that needs continuous systems improvement with less or minimal waste or cost.

Program Educational Objectives

Three to five years after graduation, the BS Industrial Engineering (BSIE) alumni shall:
1. Advance their practice in the field of industrial engineering;
2. Assume at least a supervisory position in the same or related field of endeavor;
3. Manifest proper ethical principles and values founded in Filipino, Dominican and Christian orientation;
4. Contribute goodwill in the country and other nations; and
5. Pursue advance education and professional training activities to become world class professionals.

Program Outcomes and Performance Indicators

Upon completion of BS Industrial Engineering (BSIE), the graduate, who is trained in a culture of conscience and excellence with Filipino, Dominican, and Christian in orientation, must be able to:

Program Outcomes	Performance Indicators
1. Articulate and discuss the latest developments in the specific field of practice and demonstrate a service orientation in one's profession	• Engage in continual learning and service in one's specialization
2. Preserve and promote Filipino historical and cultural heritage (based on RA No. 7722)	• Demonstrate responsible Filipino citizenship in local, national or international communities

3. Participate in various types of employment, development activities, and public discourses, particularly in response to the needs of the communities one serves	- Plan and take action for the welfare of the community - Continually engage oneself in development projects and activities that address the community needs
4. Manifest strong commitment and conviction to the Christian and Dominican teachings and philosophy in thoughts, words, and deeds	- Observe the Dominican values of study, prayer, community, and service - Uphold ecological consciousness and engage in environmental stewardship - Participate actively in the community's spiritual and social advocacy or extension program
5. Manifest competencies supporting national, regional and local development plans	- Use appropriate technique/s that can be applied in developing a project for national, regional, or local consumption. - Perform preliminary and detailed design that satisfies all the requirements, maximizing the resources available. - Develop technology-based project for national, regional, or local consumption.
6. Apply knowledge of mathematics and science to solve complex industrial engineering problems	- Analyze the parameters from the given data that are needed in solving the problem - Formulate the needed equation in solving the problem

	• Develop the procedure in solving the problem • Apply the appropriate mathematical tools in solving the problem
7. Design and conduct experiments, as well as to analyze and interpret data	• Identify different methods and the specific devices for measuring the parameters • Provide steps for setting up and conducting the designed experiment • Collect and record data using appropriate units of measurement and identify the dependent and independent variables in the experiment • Draw out appropriate or reasonable conclusions • Define objectives of the experiment • Collect sufficient and appropriate data to support the objectives of the experiment • Analyze data using appropriate methods • Relate data analysis to the objectives of the experiment
8. Design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability, in accordance with standards	• Gather information on relevant fundamentals, theory / concepts, similar existing systems (demonstrate technical competence) • Define the problem and identify the design constraints, which may include

	• economic, environmental, political, ethical, and health and safety constraints • Define functional requirements for the design (specific required actions necessary for the design to be achieved) • Perform preliminary and detailed design that satisfies all the requirements, maximizing the resources available • Systematically present the designed system, component, or process
9. Work/Function effectively and independently in multi-disciplinary and multi-cultural teams	• Perform independently and cooperatively to accomplish worthwhile goals • Fulfill team role's duties as a member in any kind of group project or activity • Fulfill team role's duties as a member leader in any kind of group project or activity • Share in a team-based work
10. Identify, formulate, and solve complex industrial engineering problems	• Identify problem/s in a community that requires expertise in industrial engineering based on needs assessment

	- Formulate problem statement, objectives, scope, and limitations, and identify resources required to solve the problems - Provide technical solution/s to the problem that is acceptable to the stakeholders - Demonstrate the use of appropriate modern tools to solve the problems
11. Act in recognition of professional, social, and ethical responsibility	- Demonstrate high academic standards, personal responsibilities, and exercise good judgment and discretion. - Immerse in an actual working environment in industry - Evaluate the ethical and societal implications of a design solution to problem in industrial engineering
12. Effectively communicate orally and in writing using English, Filipino, mother tongue language, and an appropriate Foreign Language required by the industry	- Express oneself clearly in verbal or written forms the updates in one's career or vocation - Organize presentation/reports in well-structured logical sequence, making it easy for audience/reader to follow clearly the content - Convey positive Filipino values in one's decisions and actions

	• Present a proposed solution in class or in a public forum • Defend satisfactorily his/her thesis/design project from a panel of experts
13. Identify and analyze the impact of industrial engineering solutions in a global, economic, environmental, and societal context	• Analyze the short and long-term impact (political, economic, environmental, health and safety, cultural) of proposed solutions on society (individual, local, regional or global context). • Choose the best engineering solution that will have the best impact on the society. • Criticize/ justify the effects of engineering solutions to a given problem.
14. Recognize the need for and engage in life-long learning	• Aware of the need for life-long learning • Engaged in life-long learning activities
15. Apply techniques, skills, and modern engineering tools necessary for engineering practice	• Utilize problem solving and design techniques/methods in their discipline. • Solve problems using current software used in the discipline. • Utilize the available hardware/equipment used in the discipline

16. Apply techniques, skills, and modern engineering tools necessary for engineering practice	• Utilize problem solving and design techniques/methods in their discipline. • Solve problems using current software used in the discipline. • Utilize the available hardware/equipment used in the discipline
17. Apply knowledge of engineering and management principles as a member and leader of a team, and to manage projects in a multi-disciplinary environment	• Understand the fundamentals of team dynamics and leadership • Function as an effective member or leader of diverse engineering teams and earn the trust and confidence of colleagues through competent and timely completion of tasks • Recognize the value of alternative and various viewpoints, and to know the importance of professional networking from other team members • Confidently pursue and discern expert assistance and professional advice from other members • Take initiative and fulfill the leadership role, while respecting the agreed roles of others

18. Infer at least one specialized field of industrial engineering practice	• Identify and relate in a variety of specialized fields of Industrial Engineering practice. • Discuss technical issues relevant to fields of practice. • Design the appropriate technique that can be applied in assessing the inter-relationships of the cited specialized fields of Industrial Engineering practice.
19. Design, develop, implement, and improve integrated systems that include people, materials, information, equipment, and energy	• Use principles of engineering and management to integrate systems that include people, materials, information, equipment and energy • Analyze company processes and systems and recommend improvements on quality and productivity • Perform time and motion studies of workers, set standards of work performance, and propose new and improved work methods to increase productivity • Employ quality control techniques to reduce waste and customer complaints • Use statistical procedures to establish reasonable tolerances in quality and develop procedures for making routine checks. Seek ways to reduce costs without compromising product quality

BACHELOR OF SCIENCE IN INDUSTRIAL ENGINEERING
GENERAL SUMMARY OF COURSES

I. General Education Courses

A. Core Courses — 24

GEC003	Understanding the Self	3
GEC013	Science, Technology, and Society	3
GEC023	Mga Babasahin Hinggil sa Kasaysayan ng Pilipinas	3
GEC033	Mathematics in the Modern World	3
GEC043	The Contemporary World	3
GEC053	Art Appreciation	3
GEC063	Purposive Communication	3
GEC073	Ethics	3

B. CHED Mandated Courses — 26

a. Rizal Course

RZL023	Buhay at Mga Akda ni Rizal	3

b. Physical Education Courses

PATHFIT1002	Movement Competency Training	2
PATHFIT2022	Exercise Based Fitness Activities	2
PATHFIT3032	Individual/Dual Sports	2
PATHFIT4042	Contemporary Dance	2

c. National Service Training Program

NSTP1-18	National Service Training Program 1	3
NSTP2-18	National Service Training Program 2	3

d. GENED Elective Courses

GECELEC1	Living in the IT Era	3
GECELEC2	The Entrepreneurial Mind	3
GECELEC3	Philippine Popular Culture	3

C. Institutional Mandated Courses — 18

a. Religious Education Courses

RELED053	The Catholic Christian Faith	3
RELED063	Contemporary Issues in Christian Marriage	3
RELED073	Contemporary Issues About Church and Human Society with Immersion	3
RELED083	Christian Ethics	3

b. Letran Quality Enrichment Courses

LQEC23-013	Letran Quality Enhancement Course I (Letran Calamba Identity and 21st Century Learning Skills)	3
LQEC23-023	Letran Quality Enhancement Course II (21st Century Literacy Skills & Life Skills and Sustainability)	3

I. TECHNICAL COURSES

A. Mathematics — 15

MATH153A	Calculus 1	3
MATH153B	Calculus 2	3
MATH223	Differential Equations	3
MATH343A	Engineering Mathematics 1	3
MATH343B	Engineering Mathematics 2	3

B. Natural/Physical Sciences — 8

CHM083	Chemistry for Engineers	3
CHM081L	Chemistry for Engineers Lab	1
PHY083	Physics for Engineers	3
PHY081L	Physics for Engineers Lab	1

C. Basic Engineering Sciences   15

CoENG002L	Computer Fundamentals and Programming Lab	2
Drw051L	Computer Aided Drafting	1
ENGG013	Engineering Mechanics	3
ENGG103	Engineering Economics	3
ENGG183	Basic Occupational Safety and Health	3
ENGG193	Technopreneurship	3

D. Allied Courses   18

ACT033D	Financial Accounting	3
ACT043D	Managerial Accounting	3
ECON013	Principles of Economics	3
EE013B	Elementary Electrical Engineering	3
ENGG073	Thermodynamics	3
ENGG083	Environmental Science and Engineering	3

E. Professional Courses   58

IE013A	Statistical Analysis for Industrial Engineers 1	3
IE013B	Statistical Analysis for Industrial Engineers 2	3
IE032A	Ergonomics 1	2
IE031A-L	Ergonomics 1 Lab	1
IE032B	Ergonomics 2	2
IE031B-L	Ergonomics 2 Lab	1
IE082A	Industrial Materials and Processes	2
IE081A-L	Industrial Materials and Processes Lab	1
IE113C	Operations Research 1	3
IE113D	Operations Research 2	3
IE203	Industrial Organization and Management	3
IE213	Work Study and Measurement	3
IE211L	Work Study and Measurement Lab	1
IE223	Quality Management Systems	3
IE233	Systems Engineering	3
IE243	Operations Management	3
IE241L	Operations Management Lab	1
IE253	Advanced Mathematics for Industrial Engineering	3
IE263	Supply Chain Management	3
IE273	Information Systems	3
IE-CP	IE Capstone Project	1
IE-CP-L	IE Capstone Project Lab	2
IE-PF	Project Feasibility	2
IE-PF-L	Project Feasibility Lab	1
IE-PRC5	Practicum/Industry Immersion (500 hrs)	5

F. Technical Electives   9

IElec-1	IE Elective 1	3
IElec-2	IE Elective 2	3
IElec-3	IE Elective 3	3

TOTAL UNITS 191

BACHELOR OF SCIENCE IN INDUSTRIAL ENGINEERING
Curriculum Year 2023-2024

COURSE CODE	COURSE TITLE	Lec Units/Hours	Hrs	Lab Units	Hrs	TOTAL	PRE-REQUISITES/ CO-REQUISITES
FIRST YEAR, First Semester							
CHM081L	Chemistry for Engineers Lab			1	3	*1*	co-req CHM083
CHM083	Chemistry for Engineers	3				*3*	co-req CHM081L
GEC013	Science, Technology, and Society	3				*3*	
GEC063	Purposive Communication	3				*3*	
LQEC23-013	Letran Quality Enhancement Course I (Letran Calamba Identity and 21st Century Learning Skills)	3				*3*	
MATH153A	Calculus 1	3				*3*	
MATH343A	Engineering Mathematics 1	3				*3*	
NSTP1-18	National Service Training Program 1	3				*3*	
PATHFIT1002	Movement Competency Training	2				*2*	
	Total	**23**	**0**	**1**	**3**	**24**	
FIRST YEAR, Second Semester							
Drw051L	Computer Aided Drafting			1	3	*1*	
GEC003	Understanding the Self	3				*3*	
GEC023	Mga Babasahin Hinggil sa Kasaysayan ng Pilipinas	3				*3*	
IE013A	Statistical Analysis for Industrial Engineers 1	3				*3*	
MATH153B	Calculus 2	3				*3*	MATH153A, co-req PHY083, PHY081L
MATH343B	Engineering Mathematics 2	3				*3*	MATH343A
NSTP2-18	National Service Training Program 2	3				*3*	NSTP1-18
PATHFIT2022	Exercise-Based Fitness	2				*2*	PATHFIT1002
PHY081L	Physics for Engineers Lab			1	3	*1*	MATH153A, co-req MATH153B, PHY083
PHY083	Physics for Engineers	3				*3*	MATH153A, co-req MATH153B, PHY081L
RELED053	The Catholic Christian Faith	3				*3*	
	Total	**26**	**0**	**2**	**6**	**28**	
SECOND YEAR, First Semester							
CoENG002L	Computer Fundamentals and Programming			2	6	*2*	
ECON013	Principles of Economics	3				*3*	
ENGG013	Engineering Mechanics	3				*3*	PHY083, PHY081L
IE013B	Statistical Analysis for Industrial Engineers 2	3				*3*	IE013A
IE081A-L	Industrial Materials and Processes Lab			1	3	*1*	CHM083, CHM081L, PHY083, PHY081L co-req. IE082A
IE082A	Industrial Materials and Processes	2				*2*	CHM083, CHM081L, PHY083, PHY081L co-req. IE081A-L

LQEC23-023	Letran Quality Enrichment Course II (21st Century Literacy Skills & Life Skills and Sustainability)	3				3	
MATH223	Differential Equations	3				3	MATH153B
PATHFIT3032	Individual /Dual Sports	2				2	PATHFIT1002, PATHFIT2022
RELED063	Contemporary Issues in Christian Marriage	3				3	RELED053
	Total	**22**	**0**	**3**	**9**	**25**	

SECOND YEAR, Second Semester

ACT033D	Financial Accounting	3				3	
ENGG103	Engineering Economics	3				3	
GEC033	Mathematics in the Modern World	3				3	
IE203	Industrial Organization and Management	3				3	co-req IE213, IE211L
IE211L	Work Study and Measurement Lab			1	3	1	IE013A, IE082A, IE081A-L, co-req IE213, IE203
IE213	Work Study and Measurement Lec	3				3	IE013A, IE082A, IE081A-L, co-req IE211L, IE203
IE253	Advanced Mathematics for Industrial Engineering	3				3	MATH223
PATHFIT4042	Contemporary Dance	2				2	PATHFIT1002, PATHFIT2022
RELED083	Christian Ethics	3				3	RELED053
RZL023	Buhay at Mga Gawa ni Rizal	3				3	
	Total	**26**	**0**	**1**	**3**	**27**	

THIRD YEAR, First Semester

ACT043D	Managerial Accounting	3				3	ACT033D
ENGG073	Thermodynamics	3				3	MATH223
GEC073	Ethics	3				3	
GECELEC1	Living in the IT Era	3				3	
GECELEC3	Philippine Popular Culture	3				3	
IE031A-L	Ergonomics 1 Lab			1	3	1	IE213, IE211L, co-req IE032A
IE032A	Ergonomics 1	2				2	IE213, IE211L, co-req IE031A-L
IE113C	Operations Research 1	3				3	IE253
IE223	Quality Management Systems	3				3	IE013B,IE213,IE211L
RELED073	Contemporary Isues About Church and Human Society with Immersion	3				3	RELED053
	Total	**26**	**0**	**1**	**3**	**27**	

THIRD YEAR, Second Semester

ENGG083	Environmental Science and Engineering	3				3	CHM083, CHM081L
GEC043	The Contemporary World	3				3	
GECELEC2	The Entreprenurial Mind	3				3	
IE031B-L	Ergonomics 2 Lab			1	3	1	IE032A, IE031A-L, co-req IE032B
IE032B	Ergonomics 2	2				2	IE032A, IE031A-L, co-req IE031B-L
IE113D	Operations Research 2	3				3	IE113C
IE241L	Operations Management Lab			1	3	1	IE113C, IE223, co-req IE243
IE243	Operations Management	3				3	IE113C, IE223, co-req IE241L

Code	Title	Lec		Lab	Hrs	Units	Prerequisite
IElec-1	IE Elective 1	3				3	IE213, IE211L, IE253
IE-PF	Project Feasibility	2				2	IE113C, ACT043D, co-req IE-PF-L
IE-PF-L	Project Feasibility Lab			1	3	1	IE113C, ACT043D, co-req IE-PF
	Total	22	0	3	9	25	

THIRD YEAR, Inter-Semester

Code	Title	Lec		Lab	Hrs	Units	Prerequisite
ENGG183	Basic Occupational Safety and Health	3				3	
ENGG193	Technopreneurship	3				3	ENGG103
	Total	6	0	0	0	6	

FOURTH YEAR, First Semester

Code	Title	Lec		Lab	Hrs	Units	Prerequisite
EE013B	Elementary Electrical Engineering	3				3	PHY083, PHY081L
GEC053	Art Appreciation	3				3	
IE233	Systems Engineering	3				3	IE243, IE241L
IE263	Supply Chain Management	3				3	IE243, IE241L
IE273	Information Systems	3				3	CoENG002L
IE-CP	IE Capstone Project	1				1	IE113D, co-req IE-CP-L
IE-CP-L	IE Capstone Project Lab			2	6	2	IE113D, co-req IE-CP
IElec-2	IE Elective 2	3				3	IElec-1
IElec-3	IE Elective 3	3				3	IElec-1
	Total	22	0	2	6	24	

FOURTH YEAR, Second Semester

Code	Title	Lec		Lab	Hrs	Units	Prerequisite
IE-PRC5	*Practicum/Industry Immersion (500 hrs)	5				5	EE013B, ENGG193, IE233, IE263, IE273, IE-CP, IE-CP-L, IE-PF, IE-PF-L
	Total	5	0	0	0	5	

| | GRAND TOTAL | 178 | 0 | 13 | 39 | 191 | |

*Practicum - No simultaneous enrollment is allowed.

jrd/01232023

COURSE DESCRIPTION

I. GENERAL EDUCATION COURSES

A. CORE COURSES

GEC003 - Understanding the Self   **3 units**
The course discusses the nature of identity, its factors and forces that affect the development and maintenance of personal identity. It is intended to facilitate the exploration of the issues and concerns regarding self and identity to arrive at a better understanding of one's self. It strives to meet this goal by stressing the integration of the personal with the academic — contextualizing matters discussed in the classroom and in the everyday experiences of students — making for better learning, generating a new appreciation for the learning process, and developing a more critical and reflective attitude while enabling them to manage and improve their selves to attain a better quality of life.

This also includes mandatory topics on Family Planning and Population Education. *Pre-req: None; Co-req: None*

GEC013 - Science, Technology, and Society   **3 units**
The course deals with interactions between science and technology and social cultural, political, and economic contexts, which shape and are shaped by them.
The interdisciplinary course engages students to confront the realities brought about by science and technology in society. Such realities pervade the personal, the public, and the global aspects of our living and are integral to human development. Scientific knowledge and technological development happen in the context of society with all its socio-political, cultural, economic, and philosophical underpinnings at play. This course seeks to instill reflective knowledge in the students that they are able to live the good life and display ethical decision making in the face of scientific and technological advancement.

This also includes discussion of climate change and environmental awareness as well as the implementation of the different environmental protection laws. *Pre-req: None; Co-req: None*

GEC023 - Mga Babasahin Hinggil sa Kasaysayan ng Pilipinas   **3 units**
Ang kursong ito ay tumatalakay sa mga piling primaryang sanggunian ukol sa iba't ibang yugto ng kasaysayan ng Pilipinas, pagsusuri at interpretasyon. Isasama din ang pagtalakay sa konstitusyon ng Pilipinas simula sa taong 1899 hanggang sa taong 1987. Ganun din ang pagtalakay sa repormang agraryo. Gayundin ang pagtalakay sa pagbubuwis bilang instrumento ng pamahalaan. Ito ay may kaugnayan sa tibay ng pagbubuwis bilang isa sa tatlong kapangyarihan ng pamahalaan na nakasaad sa Saligang Batas taong 1987. *Pre-req: None; Co-req: None*

GEC033 - Mathematics in the Modern World   **3 units**
The course discusses the nature of Mathematics, appreciation of its practical, intellectual, and aesthetic dimensions, and application of mathematical tools in daily life. *Pre-req: None; Co-req: None*

GEC043 - The Contemporary World
3 units

The course discusses globalization and its impact on individuals, communities and nations, challenges and responses. It introduces students to the contemporary world by examining the multifaceted phenomenon of globalization. Using the various disciplines of the social sciences, it examines the economic, social, political, technological, and other transformations that have created an increasing awareness of the interconnectedness of people and places around the globe. It provides an overview of the various debates in global governance, development, and sustainability. Beyond exposing the student to the world outside the Philippines, it seeks to inculcate a sense of global citizenship and global ethical responsibility.

This also includes mandatory topics on population education in the context of population and demography. *Pre-req: None; Co-req: None*

GEC053 - Art Appreciation
3 units

The course discusses the nature, function and appreciation of the arts in contemporary society. It intends to develop students' ability to appreciate, analyze, and critique works of art. Through interdisciplinary and multimodal approaches, this course equips students with a broad knowledge of the practical, historical, philosophical, and social relevance of the arts. This will hone their ability to articulate their understanding of the arts. It will also develop students' competency in researching and curating arts as well as conceptualizing, mounting, and evaluating art productions. The course aims to develop students' genuine appreciation for Philippine arts by providing them opportunities to explore the diversity and richness and their rootedness in Filipino culture. *Pre-req: None; Co-req: None*

GEC063 - Purposive Communication
3 units

The course discusses writing, speaking and presenting to different audiences and for various purposes. It develops students' communicative competence and enhances their cultural and intercultural awareness through multimodal tasks that provide them opportunities for communicating effectively and appropriately to a multicultural audience in a local or global context. It equips students with tools for critical evaluation of a variety of texts and focuses on the power of language and the impact of images to emphasize the importance of conveying messages responsibly. *Pre-req: None; Co-req: None*

GEC073 – Ethics
3 units

This course covers the context and tenets of ethical behavior in modern society including how individuals and communities interact with the environment and other common resources. It helps one to enhance their grasp of ethics and moral reasoning through the study of numerous theoretical viewpoints and moral experiences that make up so much of the core of daily life. By the end of the course, students should be able to articulate why and how people are seen as moral beings existing in a moral universe with a responsibility to protect themselves, one another, and the environment for everyone. *Pre-req: None; Co-req: None*

B. GENERAL EDUCATION ELECTIVE COURSES

GECELEC1 - Living in the IT Era   **3 units**
This general education elective course discusses how information technology shaped that way of life in the modern era. It discusses the science, culture and ethics information technology as well as how it affects contemporary life and interpersonal interactions and the way it may be used to promote one's social, professional, and personal goals. *Pre-req: None; Co-req: None*

GECELEC2 - The Entrepreneurial Mind   **3 units**
This general education elective course focuses on the nature and fundamentals of entrepreneurship as well as its societal responsibilities and repercussions. It is designed to assist students comprehend the business environment and encourage individuals adopt and innovative mindset. *Pre-req: None; Co-req: None*

GECELEC3 - Philippine Popular Culture   **3 units**
This general education elective course focuses on the emerging potential and expectation of mass audiences, markets and mass media, as well as their social, economic, and political settings, in the field of art, music, and literature. By the completion of the course, students should be able to demonstrate their appreciation of traditional and modern cultural expressions of as well as identify, analyze and develop trends in Philippine culture that have been inspired by various internal and external influences. *Pre-req: None; Co-req: None*

C. CHED MANDATORY COURSES

RZL023 - Buhay at Mga Akda ni Rizal   **3 units**
Ito'y isang pag-aaral sa buhay at gawa ni Gat. Jose Rizal at ang kaugnayan at kahalagahan sa nilalaman ng pangkasaysayang pagsulong ng lipunang Pilipino. Gamit ang istratehiyang 'Dambana" kung saan ang mag-aaral ay maglalaan ng panahon sa Bahay-Rizal sa Calamba, ang mag-aaral ay magiging kabahagi ng Rizal Shrine staff sa edukasyong pangkasaysayan ng mga panauhin sa Bahay-Rizal. *Pre-req: None; Co-req: None*

D. INSTITUTIONAL MANDATED COURSES

LQEC23-013 - Letran Quality Enrichment Course I (Letran Calamba Identity and 21st Century Learning Skills)   **3 units**
LQEC 1 is an enhancement course that is designed to introduce the identity of Colegio de San Juan de Letran Calamba including its history, Dominican spirituality, mission, vision, quality objectives, policies , processes and services. It also introduces the "Four Cs" of 21st Century Learning: Critical Thinking, Creativity, Collaboration and Communication that aims to enhance students' knowledge and awareness of the essential communication concepts and establish deep comprehension of the processes in a creative manner.
Furthermore, it helps the learners to formulate logical and well-thought-out reasoned judgments and promote active engagement with others to achieve a common goal. Pre-req: None; Co-req: None

LQEC23-023 - Letran Quality Enrichment Course II (21st Century Literacy Skills & Life Skills and Sustainability)   **3 units**
LQEC 2 is an enhancement course that is designed to provide basic understanding about leadership, flexibility, initiative, social skills and productivity. It also introduces digital literacy which focuses on fundamental understanding of media, technology, and information as tools for communication and the advancement of people and communities.
Moreover, the course also introduces the concept of Environment, Social, and Governance (ESG) which determines an organization's commitment to sustainability. All of these are necessary to help the learners become competitively employable in the future of work. *Pre-req: LQEC23-013; Co-req: None*

RELED053 - The Catholic Christian Faith   **3 units**
This course deals with the basic Catholic Christian Doctrine. It highlights the 12 articles of faith in the Apostles Creed, as well as the Sacred Scripture. Thus it guides the students to a life of truth, fidelity and worship to God. *Pre-req: None; Co-req: None*

RELED063 - Contemporary Issues in Christian Marriage   **3 units**
Contemporary Issues in Christian Marriage is a three unit academic subject. The emphasis of the course is on Marriage and Family presented as a vocation and a sacrament. The study prepares the students for the reception of the sacrament and achievement of a better outlook on the realities and complexities of the married state and family life. *Pre-req: RELED053; Co-req: None*

RELED073 - Contemporary Issues About Church and Human Society with Immersion   **3 units**
Contemporary Issues About Church and Human Society with Immersion is a three unit academic subject. This course studies the seven themes of the social teachings of the Catholic Church. It also tackles contemporary social issues which hamper the development of our country. An integral part of the course is Makipamuhay, a learning strategy that allows students to experience direct contact with the oppressed in society specifically the rural poor and leads them to develop personal as well as communal witnessing to authentic Christian faith. *Pre-req: RELED053; Co-req: None*

RELED083 - Christian Ethics   **3 units**
This course presents the foundations and fundamentals of Christian Ethics and their application to issues and concerns related to the Ten Commandments. *Pre-req: RELED053; Co-req: None*

E. PHYSICAL EDUCATION COURSES

PATHFIT1002 - Movement Competency Training   **2 units**
This course provides training in different movement and core engagement in conjunction with principles of healthy and physical active life. Students will be able to adopt and transfer the movement competency in different contexts. *Pre-req: None; Co-req: None*

PATHFIT2022 - Exercise-Based Fitness　　　　　　　　　　　　　　**2 units**

This course provides experiences in core stability, strength, and mobility training. It includes goal setting exercise progression and regression and periodic assessment for the development of various fitness component. *Pre-req: PATHFIT1002; Co-req: None*

PATHFIT3032 - Individual/Dual Sports　　　　　　　　　　　　　　**2 units**

This course puts emphasis on gaining basic knowledge of individual/dual sports, fitness and lifetime activities. It also includes different kinds of individual/dual sports. Students will learn the skills and game strategies for each sport as well as their historical background and terminology. Activities promote participation in physical activity to achieve good health and wellness. *Pre-req: PATHFIT1002, PATHFIT2022; Co-req: None*

PATHFIT4042 - Contemporary Dance　　　　　　　　　　　　　　**2 units**

This course provides the students the foundations of contemporary dance technique and execution. It focuses on various movement concepts at each level, particularly designed solos, and the integration of organized improvisation to provide students, the opportunity to explore and come up with their own movement language. It encourages creativity by fusing elements of jazz, modern dance, lyrical dance, classical ballet, and other disciplines. *Pre-req: PATHFIT1002, PATHFIT2022; Co-req: None*

F. NATIONAL SERVICE TRAINING PROGRAM

NSTP1-18 - National Service Training Program 1　　　　　　　　　**3 units**

The National Service Training Program 1 is a curricular offering consisting of lectures and trainings on citizenship, values education, environment and drug education, disaster management, transformational leadership, dimensions of development and literacy and numeracy skills aimed to empower the youth as potential community leaders toward national development. *Pre-req: None; Co-req: None*

NSTP2-18 - National Service Training Program 2　　　　　　　　　**3 units**

The National Service Training Program 2 is a sequel to NSTP1. This course is designed to equip the students with the fundamentals of project identifications, planning implementation and evaluation which include but is not limited to lecture and training on social mobilization, community development, and community service. The students are required to undergo the process of community immersion in pursuit of applying the concepts learned in contributing to the general welfare of in the Colegio's partner communities. *Pre-req: NSTP1-18; Co-req: None*

II. TECHNICAL COURSES

A. MATHEMATICS

MATH153A - Calculus 1   **3 units**
The course covers the basic concepts of calculus such as limits, continuity and differentiability of functions; differentiation of algebraic and transcendental functions involving one or more variables; applications of differential calculus to problems on optimization, rates of change, related rates, tangents and normals, and approximations; partial differentiation and transcendental curve tracing. *Pre-req: None; Co-req: None*

MATH153B - Calculus 2   **3 units**
The course covers the concept of integration and its application to physical problems such as evaluation of areas, volumes of revolution, force, and work; fundamental formulas and various techniques of integration applied to both single variable and multi-variable functions; tracing of functions of two variables. It includes anti-derivatives, integration methods, definite integrals, multiple integrals, infinite series, and their applications. *Pre-req: MATH153A; Co-req: PHY083, PHY081L*

MATH223 - Differential Equations   **3 units**
The course includes differentiation and integration in solving first order, first-degree differential equations of order n; Laplace transforms in solving differential equations. Pre-req: MATH153B; Co-req: None

MATH343A - Engineering Mathematics 1   **3 units**
The course aims to provide a series of lectures to improve the students' knowledge and skills in College Algebra and Plane Trigonometry. *Pre-req: None; Co-req: None*

MATH343B - Engineering Mathematics 2   **3 units**
The course aims to provide a series of lectures to improve the students' knowledge and skills in Analytic Geometry and Solid Mensuration. *Pre-req: MATH343A; Co-req: None*

B. NATURAL/ PHYSICAL SCIENCES

CHM083/ CHM081L- Chemistry for Engineers/ Chemistry for Engineers Lab   **3/1 units**
Basic concepts of matter and its classification; mass relationships in chemical reactions; properties of gases, liquids, and solids; concepts of thermochemistry; quantum theory and electronic behavior; periodic relationship of elements in the periodic table; intramolecular forces; and solutions. Lecture - *Pre-req: None; Co-req: CHM081L*; Laboratory - *Pre-req: None Co-req: CHM083*

PHY083 / PHY081L - Physics for Engineers / Physics for Engineers Lab   **3/1 units**
Lecture: This course covers vectors; kinematics; dynamics; work, energy, and power; impulse and momentum; rotation; dynamics of rotation; elasticity; and oscillation. Fluids; thermal expansion, thermal

stress; heat transfer; calorimetry; waves; electrostatics; electricity; magnetism; optics; image formation by plane and curved mirrors; and image formation by thin lenses.

Laboratory: A fundamental laboratory course designed to provide opportunity to observe and apply the principles and theories taught in the physics. *Lecture - Pre-req: MATH153A; Co-req: MATH153B, PHY081L; Laboratory - Pre-req: MATH153A; Co-req: MATH153B, PHY083*

C. BASIC ENGINEERING SCIENCES

DRW051L - Computer-Aided Drafting   1 unit
The course deals with the concepts of computer-aided drafting (CAD); introduction to the CAD environment; terminologies; and the general operating procedures and techniques in entering and executing basic CAD commands. *Pre-req: None Co-req: None*

CoENG002L - Computer Fundamentals and Programming Lab   2 units
The course provides the basic information technology concepts; fundamentals of algorithm development; high-level language and programming applications.This course tackles the basic information technology concept: the computer and computing system, algorithms and flowcharts, basic DOS commands, Number Systems, the Internet, and computer solutions to engineering problems. It also covers advanced activities in MS Word, PowerPoint and Excel applications. Concepts of basic programming using a high-level language and C programming in developing and computing source codes for the programming exercises. *Pre-req: None; Co-req: None*

ENGG013 - Engineering Mechanics   3 units
This course deals with force, moment, and motion concepts. Newton's Laws of Motion. Analysis of particles and rigid bodies in static and dynamic equilibrium using vector mechanics and energy and momentum methods. Geometric properties of lines, areas, and volumes. *Pre-req: PHY083, PHY081L: Co-req: None*

ENGG183 - Basic Occupational Health and Safety   3 units
This course tackles key Occupational Health and Safety (OSH) concepts, principles and practices that are foundational knowledge requirements applicable in almost all industries. Specifically, it assists learners in identifying the key elements in the OSH situation both here and abroad; determine existing and potential safety and health hazards; identify the range of control measures; discuss pertinent provisions of Philippine laws that refer to occupational safety and health; explain key principles in effectively communicating OSH; identify components of effective OSH programs and demonstrate some skills in identifying hazards and corresponding control measures at the workplace. *Pre-req: None; Co-req: None*

ENGG193 - Technopreneurship   3 units
This is a course on entrepreneurship with emphasis on the technology industry. The course introduces specific issues and characteristics found in the technology industry like history of technology, technology organization, marketing technology, financing technology ventures, governmental and legal factors like patents and copyright and technology strategies. The course also covers the value of professional and life

skills in entrepreneurial thought, investment decisions, and actions that students can utilize in starting technology companies or executing R&D projects in companies. *Pre-req: ENGG103; Co-req: None*

D. ALLIED COURSES

ACT033D - Financial Accounting   3 units
The course deals with the accounting concepts and principles applied to service, merchandizing and manufacturing operations; partnerships and corporations; the analysis, interpretation and use of accounting data for management. *Pre-req: None; Co-req: None*

ACT043D - Managerial Accounting   3 units
The course deals with the uses of accounting information for managerial planning and control. *Pre-req: ACT033D; Co-req: None*

ECON013 - Principles of Economics   3 units
This course deals with the introduction to economic theory and applications. *Pre-req: None; Co-req: None*

ENGG073 – Thermodynamics   3 units
A course dealing with the thermodynamic properties of pure substances, ideal and real gases and the study and application of the laws of thermodynamics in the analysis of processes and cycles. It includes introduction to vapor and gas cycles. *Pre-req: MATH223; Co-req: None*

EE013B - Elementary Electrical Engineering   3 units
This course covers the principles, basic laws and theorems used in analyzing electrical circuits in both direct current and alternating current conditions. *Pre-req: PHY083, PHY081L; Co-req: None*

ENGG083 - Environmental Science and Engineering   3 units
This course deals with the ecological framework of sustainable development; pollution environments: water, air, and solid; waste treatment processes, disposal, and management; government legislation, rules, and regulation related to the environment and waste management; and environmental management system. *Pre-req: CHM083, CHM081L; Co-req: None*

E. INDUSTRIAL ENGINEERING PROFESSIONAL COURSES

IE013A - Statistical Analysis for Industrial Engineers 1   3 units
The course is intended to teach students the basic statistical concepts and principles, probability distributions of random variables and their uses, linear functions of random variables and their applications to data analysis and inference; estimation techniques for unknown parameters; hypothesis testing, and non-parametric tests. *Pre-req: None; Co-req: None*

IE013B - Statistical Analysis for Industrial Engineers 2 — 3 units
This course deals with regression, correlation, analysis of variance (ANOVA), design of experiments and their applications in Industrial Engineering. *Pre-req: IE013A; Co-req: None*

IE032A - Ergonomics 1 — 2 units
This course deals Visual Sense. Auditory sense. Vestibular sense. Anthropometry. Biomechanics. Musculoskeletal disorders. Manual material handling. Workstation design. *Pre-req: IE213, IE211L; Co-req: IE031A-L*

IE031A-L- Ergonomics 1 Lab — 1 unit
The laboratory component of IE032A (Ergonomics 1). *Pre-req: IE213, IE211L; Co-req: IE032A*

IE032B - Ergonomics 2 — 2 units
This course deals signal detection theory, vigilance, information processing, learning, memory, mental workload, visual and auditory displays. Usability engineering. Relation of cognitive limitations to the design of effective products and interfaces. *Pre-req: IE032A, IE031A-L; Co-req: IE031B-L*

IE031B-L - Ergonomics 2 Lab — 1 unit
The laboratory component of IE032B (Ergonomics 2). *Pre-req: IE032A, IE031A-L; Co-req: IE032B*

IE082A / IE081A-L - Industrial Materials and Processes / Industrial Materials and Processes Lab — 2 / 1units
It deals with the process of charting and analysis. Work sampling. Time to study. Computerized WM. PMTS: MTM, Work factor and Standard data. Wage payment and incentive plans. Lecture - *Pre-req: CHM083, CHM081L, PHY083, PHY081L; Co-req: IE081A-L; Laboratory - Pre-req: CHM083, CHM081L, PHY083, PHY081L; Co-req: IE082A*

IE113C - Operations Research 1 — 3 units
Development and application of fundamental deterministic optimization models and various solution methods. Quantitative modeling, formulation, analysis and interpretation of linear integer and non-integer models and network flow problems. *Pre-req: IE253; Co-req: None*

IE113D - Operations Research 2 — 3 units
This course focuses on advanced mathematical programming tools. It deals with integer programming, special types of integer linear programming models (network analysis, transportation, and transshipment and assignment models) goal programming and dynamic programming. *Pre-req: IE113C; Co-req: None*

IE203 - Industrial Organization and Management — 3 units
This course deals with decision-making; the functions of management; managing production and service operations; managing the marketing function; and managing the finance function. *Pre-req: None; Co-req: IE213, IE211L*

IE213 - Work Study and Measurement — 3 units
This course deals with the process charting and analysis. Work sampling. Time study. Computerized WM. PMTS: MTM, Work factor and Standard data. Wage payment and incentive plans. *Pre-req: IE013A, IE082A, IE081A-L; Co-req: IE211L, IE203*

IE211L - Work Study and Measurement Lab — 1 unit
The laboratory component of IE213 (Work Study and Measurement). *Pre-req: IE013A, IE082A, IE081A-L; Co-req IE213, IE203*

IE223 - Quality Management Systems — 3 units
It deals with the principles and practices of quality management systems (QMS); tools and techniques utilized in QMS. *Pre-req: IE013B,IE213,IE211L; Co-req: None*

IE233 - Systems Engineering — 3 units
Systems Engineering (Lecture) deals with the concepts, tools, techniques and activities of systems analysis and design (situation appraisal, problem analysis, system definition, evaluation of alternatives, system representation, system report) and basic research methods and analysis. *Pre-req: IE243, IE241L; Co-req: None*

IE243 - Operations Management — 3 units
This course deals with production control, inventory policy, facilities planning, methods improvement. Technological assessment and review management. *Pre-req: IE113C, IE223; Co-req: IE241L*

IE241L - Operations Management Lab — 1 unit
The laboratory component of IE243 (Operation Management). *Pre-req: IE113C, IE223; Co-req: IE243*

IE253 - Advanced Mathematics for Industrial Engineering — 3 units
The course focuses on matrices, determinants, systems of linear and nonlinear equations, elements of error analysis, real roots of an equation, polynomial approximation by finite difference and least squares method, and numerical solution on system of linear and nonlinear equations. *Pre-req: MATH223; Co-req: None*

IE263 - Supply Chain Management — 3 units
Basic concepts in managing the complete flow of materials in a supply chain from suppliers to customers. Design, planning, execution, monitoring, and control in supply chain management. *Pre-req: IE243, IE241L; Co-req: None*

IE273 - Information Systems — 3 units
This course tackles concepts and frameworks of information systems. Analysis and design of information systems. *Pre-req: CoENG002L; Co-req: None*

IE-CP - IE Capstone Project — 1 unit
Capstone project will demonstrate the student's research or design ability. The project may be an industrial engineering research or a design of a system, component, or process. *Pre-req: IE113D; Co-req: IE-CP-L*

IE-CP-L - IE Capstone Project Lab   2 units

The course is the laboratory component of IE-CP (IE Capstone Project). *Pre-req: IE113D; Co-req: IE-CP*

IE-PF - Project Feasibility   2 units

This first phase of the course deals with the preparation of a project feasibility study, utilizing and refining principles, tools and methodologies in management organization, marketing, technical, financial, social economic aspects of business enterprises as well as the application and integration of these various disciplines in the development, rehabilitation and liquidation of business ventures and projects. This requires the defense of the project proposal. The second phase includes the enhancement, completion, and final defense of the proposed project. *Pre-req: IE113C, ACT043D; Co-req: IE-PF-L*

IE-PF-L - Project Feasibility Lab   1 unit

The laboratory component of IE-PF (Project Feasibility). *Pre-req: IE113C, ACT043D; Co-req: IE-PF*

IE-PRC5 - Practicum (500hrs)   5 units

This course aims to acquaint the students with the real work situation in the business/industrial world, as well as the responsibilities, functions and obligations of an industrial engineer. *Pre-req EE013B, ENGG193, IE233, IE263, IE273, IE-CP, IE-CP-L, IE-PF, IE-PF-L; Co-req: None*

E. TECHNICAL COURSES

IElec-1 - IE Elective 1   3 units

This course is designed to familiarize IE students with the innovation field of knowledge. The course is a capstone course that integrates prior learning from operations management functions, PLAN, SOURCE, MAKE, DELIVER, this course will cover the conception of the product - DEVELOP. It will help the students in understanding on how new products are conceptualized, developed, and launched to the market. Fundamental issues in the development process of a product are to be discussed; practical examples and case studies will be tackled in depth. *Pre-req: IE213, IE211L, IE253; Co-req: None*

IElec-2 - IE Elective 2   3 units

This course intends to introduce the principles of lean manufacturing, its tools and methodologies. This further aims to discuss the applications and constraints being encountered in the actual practice concepts. Pre-req: IElec-1, Co-req: None

IElec-3 - IE Elective 3   3 units

The course deals with the Just-In-Time (JIT) approach to total productive maintenance with inclusion of reliability engineering as part of productive operations in manufacturing / service system(s). Pre-req: IElec-2; Co-req: None

PROGRAM DESCRIPTION

Bachelor of Science in Mechanical Engineering is a field of study that involves the design, development, and analysis of mechanical systems and devices. It combines principles from physics, mathematics, and materials science to create solutions for a wide range of industries, including automotive, aerospace, energy, robotics, and manufacturing.

A Mechanical Engineering program covers topics such as statics and dynamics, mechanics of materials, thermodynamics, fluid mechanics, heat transfer, control systems, and manufacturing processes. Students also learn how to use computer-aided design (CAD) software, such as AutoCAD or Solid Works, and other tools to create and analyze mechanical systems.

In addition to theoretical knowledge, students have access to advanced learning facilities like Hyflex classrooms, which provide a combination of remote and in-person instruction. They also have opportunities for practical experience, including operating boilers and utilizing different machines for design and fabrication.

Graduates with a degree in Mechanical Engineering can pursue careers as design engineers, project engineers, manufacturing engineers, research and development engineers, or technical sales representatives. They may work in industries such as automotive, aerospace, energy, robotics, or manufacturing, applying their CAD skills and problem-solving abilities to create innovative solutions.

Program Educational Objectives

Three to five years after graduation, the BS Mechanical Engineering (BSME) alumni shall:
1. Advance their practice in the field of mechanical engineering;
2. Assume at least a supervisory position in the same or related field of endeavor;
3. Manifest proper ethical principles and values founded in Filipino, Dominican and Christian orientation;
4. Contribute goodwill in the country and other nations; and
5. Pursue advance education and professional training activities to become world class professionals.

Program Outcomes and Performance Indicators

Upon completion of BS Mechanical Engineering (BSME), the graduate, who is trained in a culture of conscience and excellence with Filipino, Dominican, and Christian in orientation, must be able to:

Program Outcomes	Performance Indicators
1. Articulate and discuss the latest developments in the specific field of practice and demonstrate a service orientation in one's profession	• Engage in continual learning and service in one's specialization
2. Preserve and promote Filipino historical and cultural heritage (based on RA No. 7722)	• Demonstrate responsible Filipino citizenship in local, national or international communities

3. Participate in various types of employment, development activities, and public discourses, particularly in response to the needs of the communities one serves	• Plan and take action for the welfare of the community • Continually engage oneself in development projects and activities that address the community needs
4. Manifest strong commitment and conviction to the Christian and Dominican teachings and philosophy in thoughts, words, and deeds	• Observe the Dominican values of study, prayer, community, and service • Uphold ecological consciousness and engage in environmental stewardship • Participate actively in the community's spiritual and social advocacy or extension program
5. Manifest competencies supporting national, regional and local development plans	• Use appropriate technique/s that can be applied in developing a project for national, regional, or local consumption. • Perform preliminary and detailed design that satisfies all the requirements, maximizing the resources available. • Develop technology-based project for national, regional, or local consumption.
6. Apply knowledge of mathematics and science to solve complex industrial engineering problems	• Analyze the parameters from the given data that are needed in solving the problem • Formulate the needed equation in solving the problem

	- Develop the procedure in solving the problem - Apply the appropriate mathematical tools in solving the problem
7. Develop and conduct experiments, as well as to analyze and interpret data	- Identify different methods and the specific devices for measuring the parameters - Provide steps for setting up and conducting the designed experiment - Collect and record data using appropriate units of measurement and identify the dependent and independent variables in the experiment - Draw out appropriate or reasonable conclusions - Define objectives of the experiment - Collect sufficient and appropriate data to support the objectives of the experiment - Analyze data using appropriate methods - Relate data analysis to the objectives of the experiment
8. Design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability, in accordance with standards	- Gather information on relevant fundamentals, theory / concepts, similar existing systems (demonstrate technical competence) - Define the problem and identify the design constraints, which may include

	- economic, environmental, political, ethical, and health and safety constraints - Define functional requirements for the design (specific required actions necessary for the design to be achieved) - Perform preliminary and detailed design that satisfies all the requirements, maximizing the resources available - Systematically present the designed system, component, or process
9. Work/Function effectively and independently in multi-disciplinary and multi-cultural teams	- Perform independently and cooperatively to accomplish worthwhile goals - Fulfill team role's duties as a member in any kind of group project or activity - Fulfill team role's duties as a member leader in any kind of group project or activity - Share in a team-based work
10. Identify, formulate, and solve complex mechanical engineering problems	- Identify problem/s in a community that requires expertise in industrial engineering based on needs assessment

	• Formulate problem statement, objectives, scope, and limitations, and identify resources required to solve the problems • Provide technical solution/s to the problem that is acceptable to the stakeholders • Demonstrate the use of appropriate modern tools to solve the problems
11. Act in recognition of professional, social, and ethical responsibility	• Demonstrate the knowledge of professional code of ethics • Acknowledge the work of others they use through proper citation • Apply professional standards (use of handbooks, codes, standards) in obtaining, reporting, analyzing data or in crafting design. • Demonstrate high academic standards, personal responsibilities, and exercise good judgment and discretion. • Immerse in an actual working environment in industry • Evaluate the ethical and societal implications of a design solution to problem in mechanical engineering
12. Effectively communicate orally and in writing using English, Filipino, mother tongue language, and an appropriate Foreign Language required by the industry	• Express oneself clearly in verbal or written forms the updates in one's career or vocation • Convey positive Filipino values in one's decisions and actions

	- Present a proposed solution in class or in a public forum - Defend satisfactorily his/her thesis/design project from a panel of experts - Organize presentation in well-structured logical sequence, making it easy for audience to follow clearly the content. - Respond clearly to question professionally after restating the question to audience. - Use good grammatical English and maintains good posture and eye contact with the audience. - Organize reports and follow the institutional format. - Present conclusion including strengths and weaknesses and logically give recommendations
13. Identify and analyze the impact of mechanical engineering solutions in a global, economic, environmental, and societal context	- Investigate a given engineering problem and propose related solutions - Analyze the short and long term impact (political, economic, environmental, health and safety, cultural) of proposed solutions on society (individual, local, regional or global context) - Choose the best engineering solution that will have the best impact on the society. - Criticize/ justify the effects of engineering solutions to a given problem

14. Recognize the need for, and engage in life-long learning	• Aware of the need for life-long learning • Engaged in life-long learning activities
15. Know, articulate and discuss contemporary issues and development in the specific field of practice	• Identify and relate in a variety of contemporary issues or topic • Discuss technical issues relevant to field of practices • Design the appropriate technique that can be applied in assessing the interrelationships of the cited contemporary issues
16. Apply techniques, skills, and modern engineering tools necessary for engineering practice	• Utilize problem solving and design techniques/methods in their discipline. • Solve problems using current software used in the discipline. • Utilize the available hardware/equipment used in the discipline
17. Apply knowledge of engineering and management principles as a member and leader of a team, and to manage projects in a multi-disciplinary environment	• Understand the fundamentals of team dynamics and leadership • Function as an effective member or leader of diverse engineering teams and earn the trust and confidence of colleagues through competent and timely completion of tasks

	- Recognize the value of alternative and various viewpoints, and to know the importance of professional networking from other team members - Confidently pursue and discern expert assistance and professional advice from other members - Take initiative and fulfill the leadership role, while respecting the agreed roles of others
18. Infer at least one specialized field of mechanical engineering practice	- Identify and relate in a variety of specialized fields of Mechanical Engineering practice. - Discuss technical issues relevant to fields of practice. - Design the appropriate technique that can be applied in assessing the inter-relationships of the cited specialized fields of Mechanical Engineering practice.

BACHELOR OF SCIENCE IN MECHANICAL ENGINEERING
GENERAL SUMMARY OF COURSES

I. General Education Courses

A. Core Courses   **24**

GEC003	Understanding the Self	3
GEC013	Science, Technology, and Society	3
GEC023	Mga Babasahin Hinggil sa Kasaysayan ng Pilipinas	3
GEC033	Mathematics in the Modern World	3
GEC043	The Contemporary World	3
GEC053	Art Appreciation	3
GEC063	Purposive Communication	3
GEC073	Ethics	3

B. CHED Mandated Courses   **26**

a. Rizal Course

RZL023	Buhay at Mga Akda ni Rizal	3

b. Physical Education Courses

PATHFIT1002	Movement Competency Training	2
PATHFIT2022	Exercise Based Fitness Activities	2
PATHFIT3032	Individual/Dual Sports	2
PATHFIT4042	Contemporary Dance	2

c. National Service Training Program

NSTP1-18	National Service Training Program 1	3
NSTP2-18	National Service Training Program 2	3

d. GENED Elective Courses

GECELEC1	Living in the IT Era	3
GECELEC2	The Entrepreneurial Mind	3
GECELEC3	Philippine Popular Culture	3

C. Institutional Mandated Courses   **24**

a. Religious Education Courses

RELED053	The Catholic Christian Faith	3
RELED063	Contemporary Issues in Christian Marriage	3
RELED073	Contemporary Issues About Church and Human Society with Immersion	3
RELED083	Christian Ethics	3

b. Letran Quality Enrichment Courses

LQEC23-013	Letran Quality Enhancement Course I (Letran Calamba Identity and 21st Century Learning Skills)	3
LQEC23-023	Letran Quality Enhancement Course II (21st Century Literacy Skills & Life Skills and Sustainability)	3
ME-ST006	Special Topics for ME	6

II. TECHNICAL COURSES

A. Mathematics   **18**

MATH153A	Calculus 1	3
MATH153B	Calculus 2	3
MATH223	Differential Equations	3
MATH323	Engineering Data Analysis	3
MATH343A	Engineering Mathematics 1	3
MATH343B	Engineering Mathematics 2	3

B. Natural/Physical Sciences   **8**

CHM083	Chemistry for Engineers	3
CHM081L	Chemistry for Engineers Lab	1
PHY083	Physics for Engineers	3

MATH153A	Calculus 1	3
MATH153B	Calculus 2	3
MATH223	Differential Equations	3
MATH323	Engineering Data Analysis	3
MATH343A	Engineering Mathematics 1	3
MATH343B	Engineering Mathematics 2	3

B. Natural/Physical Sciences   **8**

CHM083	Chemistry for Engineers	3
CHM081L	Chemistry for Engineers Lab	1
PHY083	Physics for Engineers	3
PHY081L	Physics for Engineers Lab	1

C. Basic Engineering Sciences   **20**

CoENG001L	Computer Fundamentals and Programming Lab	1
DRW021L	Engineering Drawing	1
DRW051L	Computer Aided Drafting	1
ENGG002	Dynamics of Rigid Bodies	2
ENGG003	Statics of Rigid Bodies	3
ENGG064	Mechanics of Deformable Bodies	4
ENGG103	Engineering Economics	3
ENGG112	Engineering Management	2
ENGG193	Technopreneurship	3

D. Allied Courses   **9**

EE012B	Basic Electrical Engineering	2
EE011B-L	Basic Electrical Engineering Lab	1
EE022C	DC and AC Machinery	2
EE021C-L	DC and AC Machinery Lab	1
EE062B	Basic Electronics	2
EE061B-L	Basic Electronics Lab	1

E. Fundamental Courses   **51**

CoENG041L	Computer Applications for ME	1
ME001-18	Orientation to ME	1
ME001L	Workshop Theory & Practice Lab	1
ME002L	Machine Shop Theory and Practice Lab	2
ME032C	Machine Elements	2
ME031C-L	Machine Elements Lab	1
ME043C	Thermodynamics I	3
ME043D	Thermodynamics II	3
ME052B	Material Science & Engineering for ME	2
ME051B-L	Material Science & Engineering for ME Lab	1
ME071B-L1	Mechanical Engineering Lab I	1
ME072B-L2	Mechanical Engineering Lab II	2
ME082B	Combustion Engineering	2
ME092B	Heat Transfer	2
ME102-23	Methods of Research for ME	2
ME113B	Refrigeration Systems	3
ME123A	Fluid Machineries	3
ME132B	Vibration Engineering	2
ME143C	Airconditioning and Ventilation Systems	3
ME221	Manufacturing & Industrial Processes with Plant Visit	1
ME221L	Manufacturing & Industrial Processes with Plant Visit Lab	1
ME262	Control Engineering	2

ME261L	Control Engineering Lab	1	
ENGG093	Fluid Mechanics	3	
ENGG183	Basic Occupational Safety and Health	3	
MATHME253	Advanced Engineering Math for ME	3	

F. Professional Courses — **20**

ME063C	Machine Design I	3
ME062D	Machine Design II	2
ME061D-L	Machine Design II Lab	1
ME072B-L3	Mechanical Engineering Lab III	2
ME153A	Industrial Plant Engineering and Design	3
ME151A-L	Industrial Plant Engineering and Design Lab	1
ME182A	ME Laws, Ethics, Codes, and Standards	2
ME193	Power Plant Design with Renewable Energy	3
ME191L	Power Plant Design with Renewable Energy Lab	1
ME-PS1	ME Project Study I	1
ME-PS2	ME Project Study II	1

G. Technical Electives — **6**

| ME-ELEC1 | Solar Energy and Wind Energy Utilization | 3 |
| ME-ELEC2 | Energy Management System in Building | 3 |

TOTAL UNITS   206

BACHELOR OF SCIENCE IN MECHANICAL ENGINEERING
Curriculum Year 2023-2024

COURSE CODE	COURSE TITLE	Lec Units/Hours	Lab Units	Lab Hrs	TOTAL	PRE-REQUISITES/ CO-REQUISITES
FIRST YEAR, First Semester						
CHM081L	Chemistry for Engineers Lab		1	3	1	co-req CHM083
CHM083	Chemistry for Engineers	3			3	co-req CHM081L
DRW021L	Engineering Drawing		1	3	1	
GEC013	Science, Technology, and Society	3			3	
LQEC23-013	Letran Quality Enhancement Course I (Letran Calamba Identity and 21st Century Learning Skills)	3			3	
MATH153A	Calculus 1	3			3	
MATH343A	Engineering Mathematics 1	3			3	
ME001-18	Orientation to ME	1			1	
NSTP1-18	National Service Training Program 1	3			3	
PATHFIT1002	Movement Competency Training	2			2	
	Total	**21**	**2**	**6**	**23**	
FIRST YEAR, Second Semester						
DRW051L	Computer Aided Drafting		1	3	1	DRW021L
GEC023	Mga Babasahin Hinggil sa Kasaysayan ng Pilipinas	3			3	
GEC033	Mathematics in the Modern World	3			3	
MATH153B	Calculus 2	3			3	MATH153A, co-req PHY083, PHY081L
MATH343B	Engineering Mathematics 2	3			3	MATH343A
ME001L	Workshop Theory & Practice Lab		1	3	1	
NSTP2-18	National Service Training Program 2	3			3	NSTP1-18
PATHFIT2022	Exercise-Based Fitness	2			2	PATHFIT1002
PHY081L	Physics for Engineers Lab		1	3	1	MATH153A, co-req PHY083, MATH153B
PHY083	Physics for Engineers	3			3	MATH153A, co-req PHY081L, MATH153B
RELED053	The Catholic Christian Faith	3			3	
	Total	**23**	**3**	**9**	**26**	
SECOND YEAR, First Semester						
EE011B-L	Basic Electrical Engineering Lab		1	3	1	Phy083, Phy081L, co-req: EE012B
EE012B	Basic Electrical Engineering	2			2	Phy083, Phy081L, co-req: EE011B-L
ENGG003	Statics of Rigid Bodies	3			3	MATH153B, Phy083, Phy081L
GEC003	Understanding the Self	3			3	
LQEC23-023	Letran Quality Enrichment Course II (21st Century Literacy Skills & Life Skills and Sustainability)	3			3	LQEC23-013
MATH223	Differential Equations	3			3	MATH153B

Code	Description	Lec	Lab	Hrs	Units	Prerequisites
ME002L	Machine Shop Theory and Practice		2	6	2	ME001L
ME031C-L	Machine Elements Lab		1	3	1	Drw051L,Phy083,Phy081L; co-req: ME032C
ME032C	Machine Elements	2			2	Drw051L,Phy083,Phy081L; co-req: ME031C-L
ME043C	Thermodynamics I	3			3	MATH153B, Phy083, Phy081L
PATHFIT3032	Individual /Dual Sports	2			2	PATHFIT1002, PATHFIT2022
RELED063	Contemporary Issues in Christian Marriage	3			3	RELED053
	Total	**24**	**4**	**12**	**28**	

SECOND YEAR, Second Semester

Code	Description	Lec	Lab	Hrs	Units	Prerequisites
CoENG001L	Computer Fundamentals and Programming		1	3	1	
EE061B-L	Basic Electronics Lab		1	3	1	EE012B, EE011B-L, co-req: EE062B
EE062B	Basic Electronics	2			2	EE012B, EE011B-L, co-req: EE061B-L
ENGG002	Dynamics of Rigid Bodies	2			2	ENGG003
ENGG064	Mechanics of Deformable Bodies	4			4	ENGG003
GEC063	Purposive Communication	3			3	
GEC073	Ethics	3			3	
ME043D	Thermodynamics II	3			3	ME043C, co-req: ME071B-L1
ME071B-L1	Mechanical Engineering Lab I		1	3	1	ME002L, co-req: ME043D
ME092B	Heat Transfer	2			2	ME043C
PATHFIT4042	Contemporary Dance	2			2	PATHFIT1002, PATHFIT2022
RELED083	Christian Ethics	3			3	RELED053
	Total	**24**	**3**	**9**	**27**	

SECOND YEAR, Inter-Semester

Code	Description	Lec	Lab	Hrs	Units	Prerequisites
ENGG103	Engineering Economics	3			3	MATH153A
ENGG112	Engineering Management	2			2	
MATHME253	Advanced Engineering Math for ME	3			3	MATH223
	Total	**8**			**8**	

THIRD YEAR, First Semester

Code	Description	Lec	Lab	Hrs	Units	Prerequisites
EE021C-L	DC and AC Machinery Lab		1	3	1	EE012B, EE011B-L, co-req EE022C
EE022C	DC and AC Machinery	2			2	EE012B, EE011B-L, co-req EE021C-L
GECELEC1	Living in the IT Era	3			3	
GECELEC3	Philippine Popular Culture	3			3	
MATH323	Engineering Data Analysis	3			3	MATH153A
ME051B-L	Material Science & Engineering for ME Lab		1	3	1	ENGG064, CHM083, CHM081L, co-req ME052B
ME052B	Material Science & Engineering for ME	2			2	ENGG064, CHM083, CHM081L, co-req ME051B-L
ME063C	Machine Design I	3			3	ENGG064, ME032C, ME031C-L
ME072B-L2	Mechanical Engineering Lab II		2	6	2	ME071B-L1
ME082B	Combustion Engineering	2			2	ME092B, ME043D
ME113B	Refrigeration Systems	3			3	ME092B, ME043D
RELED073	Contemporary Issues in about Church and Human Society with Immersion	3			3	RELED053
	Total	**24**	**4**	**12**	**28**	

THIRD YEAR, Second Semester

Code	Title	Lec	Lab	Hrs	Units	Pre/Co-requisite
CoENG041L	Computer Applications for ME		1	3	1	CoENG001L
ENGG093	Fluid Mechanics	3			3	ME043D
GECELEC2	The Entrepreneurial Mind	3			3	
ME061D-L	Machine Design II Lab		1	3	1	ME063C, co-req ME062D
ME062D	Machine Design II	2			2	ME063C, co-req ME061D-L
ME072B-L3	Mechanical Engineering Lab III		2	6	2	ME072B-L2
ME102-23	Methods of Research for ME	2			2	co-req ME-PS1
ME143C	Airconditioning and Ventilation Systems	3			3	ME113B
ME151A-L	Industrial Plant Engineering and Design Lab		1	3	1	ME072B-L2, ME082B,ME113B co-req ME153A
ME153A	Industrial Plant Engineering and Design	3			3	ME072B-L2, ME082B, ME113B co-req ME151A-L
ME-PS1	ME Project Study I		1	3	1	ME063C, ME082B, ME113B, ME072B-L2 co-req ME102-23
RZL023	Buhay at Mga Akda ni Rizal	3			3	
	Total	**19**	**6**	**18**	**25**	

THIRD YEAR, Inter-Semester

Code	Title	Lec	Lab	Hrs	Units	Pre/Co-requisite
ENGG183	Basic Occupational Safety and Health	3			3	
ENGG193	Technopreneurship	3			3	GECELEC2
ME123A	Fluid Machineries	3			3	ENGG093
	Total	**9**	**0**	**0**	**9**	

FOURTH YEAR, First Semester

Code	Title	Lec	Lab	Hrs	Units	Pre/Co-requisite
GEC043	The Contemporary World	3			3	
GEC053	Art Appreciation	3			3	
ME132B	Vibration Engineering	2			2	MATHME253
ME191L	Power Plant Design with Renewable Energy Lab		1	3	1	ME153A, ME151A-L co-req ME193
ME193	Power Plant Design with Renewable Energy	3			3	ME153A, ME151A-L co-req ME191L

Code	Descriptive Title	Lec	Lab	Hrs	Units	Pre-requisite / Co-requisite
ME261L	Control Engineering Lab		1	3	1	EE062B, EE061B-L, co-req ME262
ME262	Control Engineering	2			2	EE062B, EE061B-L, co-req ME261L
ME-ELEC1	ME Elective 1	3			3	ME153A, ME151A-L co-req ME-ELEC2
ME-ELEC2	ME Elective 2	3			3	ME153A, ME151A-L co-req ME-ELEC1
ME-PS2	ME Project Study II		1	3	1	ME-PS1
	Total	**19**	**3**	**9**	**22**	

FOURTH YEAR, Second Semester

Code	Descriptive Title	Lec	Lab	Hrs	Units	Pre-requisite / Co-requisite
ME182A	ME Laws, Ethics, Codes, and Standards	2			2	GEC073
ME221	*Manufacturing & Industrial Processes with Plant Visit	1			1	ME193, ME191L co-req: ME221L
ME221L	*Manufacturing & Industrial Processes with Plant Visit Lab		1	3	1	ME193, ME191L co-req: ME221
ME-ST006	Special Topics for ME	6			6	ME193, ME191L
	Total	**9**	**1**	**3**	**10**	

| | **GRAND TOTAL** | **180** | **26** | **78** | **206** | |

*OJT (300 hrs) may be substituted for Manufacturing & Industrial Processes with Plant Visit (ME221) and Manufacturing & Industrial Processes with Plant Visit Laboratory (ME221L).

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COURSE DESCRIPTION

I. GENERAL EDUCATION COURSES

A. CORE COURSES

GEC003 - Understanding the Self   **3 units**

The course discusses the nature of identity, its factors and forces that affect the development and maintenance of personal identity. It is intended to facilitate the exploration of the issues and concerns regarding self and identity to arrive at a better understanding of one's self. It strives to meet this goal by stressing the integration of the personal with the academic — contextualizing matters discussed in the classroom and in the everyday experiences of students — making for better learning, generating a new appreciation for the learning process, and developing a more critical and reflective attitude while enabling them to manage and improve their selves to attain a better quality of life.

This also includes mandatory topics on Family Planning and Population Education. *Pre-req: None; Co-req: None*

GEC013 - Science, Technology, and Society   **3 units**

The course deals with interactions between science and technology and social cultural, political, and economic contexts, which shape and are shaped by them.

The interdisciplinary course engages students to confront the realities brought about by science and technology in society. Such realities pervade the personal, the public, and the global aspects of our living and are integral to human development. Scientific knowledge and technological development happen in the context of society with all its socio-political, cultural, economic, and philosophical underpinnings at play. This course seeks to instill reflective knowledge in the students that they are able to live the good life and display ethical decision making in the face of scientific and technological advancement.

This also includes discussion of climate change and environmental awareness as well as the implementation of the different environmental protection laws. *Pre-req: None; Co-req: None*

GEC023 - Mga Babasahin Hinggil sa Kasaysayan ng Pilipinas   **3 units**

Ang kursong ito ay tumatalakay sa mga piling primaryang sanggunian ukol sa iba't ibang yugto ng kasaysayan ng Pilipinas, pagsusuri at interpretasyon. Isasama din ang pagtalakay sa konstitusyon ng Pilipinas simula sa taong 1899 hanggang sa taong 1987. Ganun din ang pagtalakay sa repormang agraryo. Gayundin ang pagtalakay sa pagbubuwis bilang instrumento ng pamahalaan. Ito ay may kaugnayan sa tibay ng pagbubuwis bilang isa sa tatlong kapangyarihan ng pamahalaan na nakasaad sa Saligang Batas taong 1987. *Pre-req: None; Co-req: None*

GEC033 - Mathematics in the Modern World   **3 units**

The course discusses the nature of Mathematics, appreciation of its practical, intellectual, and aesthetic dimensions, and application of mathematical tools in daily life. *Pre-req: None; Co-req: None*

GEC043 - The Contemporary World
3 units

The course discusses globalization and its impact on individuals, communities and nations, challenges and responses. It introduces students to the contemporary world by examining the multifaceted phenomenon of globalization. Using the various disciplines of the social sciences, it examines the economic, social, political, technological, and other transformations that have created an increasing awareness of the interconnectedness of people and places around the globe. It provides an overview of the various debates in global governance, development, and sustainability. Beyond exposing the student to the world outside the Philippines, it seeks to inculcate a sense of global citizenship and global ethical responsibility.

This also includes mandatory topics on population education in the context of population and demography. *Pre-req: None; Co-req: None*

GEC053 - Art Appreciation
3 units

The course discusses the nature, function and appreciation of the arts in contemporary society. It intends to develop students' ability to appreciate, analyze, and critique works of art. Through interdisciplinary and multimodal approaches, this course equips students with a broad knowledge of the practical, historical, philosophical, and social relevance of the arts. This will hone their ability to articulate their understanding of the arts. It will also develop students' competency in researching and curating arts as well as conceptualizing, mounting, and evaluating art productions. The course aims to develop students' genuine appreciation for Philippine arts by providing them opportunities to explore the diversity and richness and their rootedness in Filipino culture. *Pre-req: None; Co-req: None*

GEC063 - Purposive Communication
3 units

The course discusses writing, speaking and presenting to different audiences and for various purposes. It develops students' communicative competence and enhances their cultural and intercultural awareness through multimodal tasks that provide them opportunities for communicating effectively and appropriately to a multicultural audience in a local or global context. It equips students with tools for critical evaluation of a variety of texts and focuses on the power of language and the impact of images to emphasize the importance of conveying messages responsibly. *Pre-req: None; Co-req: None*

GEC073 – Ethics
3 units

This course covers the context and tenets of ethical behavior in modern society including how individuals and communities interact with the environment and other common resources. It helps one to enhance their grasp of ethics and moral reasoning through the study of numerous theoretical viewpoints and moral experiences that make up so much of the core of daily life. By the end of the course, students should be able to articulate why and how people are seen as moral beings existing in a moral universe with a responsibility to protect themselves, one another, and the environment for everyone. *Pre-req: None; Co-req: None*

B. GENERAL EDUCATION ELECTIVE COURSES

GECELEC1 - Living in the IT Era
3 units

This general education elective course discusses how information technology shaped that way of life in the modern era. It discusses the science, culture and ethics information technology as well as how it affects contemporary life and interpersonal interactions and the way it may be used to promote one's social, professional, and personal goals. *Pre-req: None; Co-req: None*

GECELEC2 - The Entrepreneurial Mind
3 units

This general education elective course focuses on the nature and fundamentals of entrepreneurship as well as its societal responsibilities and repercussions. It is designed to assist students comprehend the business environment and encourage individuals adopt and innovative mindset. *Pre-req: None; Co-req: None*

GECELEC3 - Philippine Popular Culture
3 units

This general education elective course focuses on the emerging potential and expectation of mass audiences, markets and mass media, as well as their social, economic, and political settings, in the field of art, music, and literature. By the completion of the course, students should be able to demonstrate their appreciation of traditional and modern cultural expressions of as well as identify, analyze and develop trends in Philippine culture that have been inspired by various internal and external influences. *Pre-req: None; Co-req: None*

C. CHED MANDATORY COURSES

RZL023 - Buhay at Mga Akda ni Rizal
3 units

Ito'y isang pag-aaral sa buhay at gawa ni Gat. Jose Rizal at ang kaugnayan at kahalagahan sa nilalaman ng pangkasaysayang pagsulong ng lipunang Pilipino. Gamit ang istratehiyang 'Dambana" kung saan ang mag-aaral ay maglalaan ng panahon sa Bahay-Rizal sa Calamba, ang mag-aaral ay magiging kabahagi ng Rizal Shrine staff sa edukasyong pangkasaysayan ng mga panauhin sa Bahay-Rizal. *Pre-req: None; Co-req: None*

D. INSTITUTIONAL MANDATED COURSES

LQEC23-013 - Letran Quality Enrichment Course I (Letran Calamba Identity and 21st Century Learning Skills)
3 units

LQEC 1 is an enhancement course that is designed to introduce the identity of Colegio de San Juan de Letran Calamba including its history, Dominican spirituality, mission, vision, quality objectives, policies , processes and services. It also introduces the "Four Cs" of 21st Century Learning: Critical Thinking, Creativity, Collaboration and Communication that aims to enhance students' knowledge and awareness of the essential communication concepts and establish deep comprehension of the processes in a creative manner.

Furthermore, it helps the learners to formulate logical and well-thought-out reasoned judgments and promote active engagement with others to achieve a common goal. Pre-req: None; Co-req: None

LQEC23-023 - Letran Quality Enrichment Course II (21st Century Literacy Skills & Life Skills and Sustainability) 3 units
LQEC 2 is an enhancement course that is designed to provide basic understanding about leadership, flexibility, initiative, social skills and productivity. It also introduces digital literacy which focuses on fundamental understanding of media, technology, and information as tools for communication and the advancement of people and communities.
Moreover, the course also introduces the concept of Environment, Social, and Governance (ESG) which determines an organization's commitment to sustainability. All of these are necessary to help the learners become competitively employable in the future of work. *Pre-req: LQEC23-013; Co-req: None*

RELED053 - The Catholic Christian Faith 3 units
This course deals with the basic Catholic Christian Doctrine. It highlights the 12 articles of faith in the Apostles Creed, as well as the Sacred Scripture. Thus it guides the students to a life of truth, fidelity and worship to God. *Pre-req: None; Co-req: None*

RELED063 - Contemporary Issues in Christian Marriage 3 units
Contemporary Issues in Christian Marriage is a three unit academic subject. The emphasis of the course is on Marriage and Family presented as a vocation and a sacrament. The study prepares the students for the reception of the sacrament and achievement of a better outlook on the realities and complexities of the married state and family life. *Pre-req: RELED053; Co-req: None*

RELED073 - Contemporary Issues About Church and Human Society with Immersion 3 units
Contemporary Issues About Church and Human Society with Immersion is a three unit academic subject. This course studies the seven themes of the social teachings of the Catholic Church. It also tackles contemporary social issues which hamper the development of our country. An integral part of the course is Makipamuhay, a learning strategy that allows students to experience direct contact with the oppressed in society specifically the rural poor and leads them to develop personal as well as communal witnessing to authentic Christian faith. *Pre-req: RELED053; Co-req: None*

RELED083 - Christian Ethics 3 units
This course presents the foundations and fundamentals of Christian Ethics and their application to issues and concerns related to the Ten Commandments. *Pre-req: RELED053; Co-req: None*

E. PHYSICAL EDUCATION COURSES

PATHFIT1002 - Movement Competency Training　　　　　　　　　　　**2 units**
This course provides training in different movement and core engagement in conjunction with principles of healthy and physical active life. Students will be able to adopt and transfer the movement competency in different contexts. *Pre-req: None; Co-req: None*

PATHFIT2022 - Exercise-Based Fitness　　　　　　　　　　　　　　**2 units**
This course provides experiences in core stability, strength, and mobility training. It includes goal setting exercise progression and regression and periodic assessment for the development of various fitness component. *Pre-req: PATHFIT1002; Co-req: None*

PATHFIT3032 - Individual/Dual Sports　　　　　　　　　　　　　　**2 units**
This course puts emphasis on gaining basic knowledge of individual/dual sports, fitness and lifetime activities. It also includes different kinds of individual/dual sports. Students will learn the skills and game strategies for each sport as well as their historical background and terminology. Activities promote participation in physical activity to achieve good health and wellness. *Pre-req: PATHFIT1002, PATHFIT2022; Co-req: None*

PATHFIT4042 - Contemporary Dance　　　　　　　　　　　　　　**2 units**
This course provides the students the foundations of contemporary dance technique and execution. It focuses on various movement concepts at each level, particularly designed solos, and the integration of organized improvisation to provide students, the opportunity to explore and come up with their own movement language. It encourages creativity by fusing elements of jazz, modern dance, lyrical dance, classical ballet, and other disciplines. *Pre-req: PATHFIT1002, PATHFIT2022; Co-req: None*

F. NATIONAL SERVICE TRAINING PROGRAM

NSTP1-18 - National Service Training Program 1　　　　　　　　　**3 units**
The National Service Training Program 1 is a curricular offering consisting of lectures and trainings on citizenship, values education, environment and drug education, disaster management, transformational leadership, dimensions of development and literacy and numeracy skills aimed to empower the youth as potential community leaders toward national development. *Pre-req: None; Co-req: None*

NSTP2-18 - National Service Training Program 2　　　　　　　　　**3 units**
The National Service Training Program 2 is a sequel to NSTP1. This course is designed to equip the students with the fundamentals of project identifications, planning implementation and evaluation which include but is not limited to lecture and training on social mobilization, community development, and community service. The students are required to undergo the process of community immersion in pursuit of applying the concepts learned in contributing to the general welfare of in the Colegio's partner communities. *Pre-req: NSTP1-18; Co-req: None*

II. TECHNICAL COURSES

A. MATHEMATICS

MATH153A - Calculus 1   **3 units**
The course covers the basic concepts of calculus such as limits, continuity and differentiability of functions; differentiation of algebraic and transcendental functions involving one or more variables; applications of differential calculus to problems on optimization, rates of change, related rates, tangents and normals, and approximations; partial differentiation and transcendental curve tracing. *Pre-req: None; Co-req: None*

MATH153B - Calculus 2   **3 units**
The course covers the concept of integration and its application to physical problems such as evaluation of areas, volumes of revolution, force, and work; fundamental formulas and various techniques of integration applied to both single variable and multi-variable functions; tracing of functions of two variables. It includes anti-derivatives, integration methods, definite integrals, multiple integrals, infinite series, and their applications. *Pre-req: MATH153A; Co-req: PHY083, PHY081L*

MATH323 - Engineering Data Analysis   **3 units**
This course introduces different methods of data collection and the suitability of using a particular method for a given situation. It includes a coverage and discussion of the relationship of probability to statistics, probability distributions of random variables and their uses, linear functions of random variables within the context of their application to data analysis and inference, estimation techniques for unknown parameters, and hypothesis testing used in making inferences from sample to population, inference for regression parameters and build models for estimating means and predicting future values of key variables under study. Statistically based experimental design techniques and analysis of outcomes of experiments are discussed with the aid of statistical software. *Pre-req: MATH153A; Co-req: None*

MATH223 - Differential Equations   ***3 units***
It covers first order differential equations, nth order linear differential equations and systems of first order linear differential equations. It also introduces the concept of Laplace Transforms in solving differential equations. The students are expected to be able to recognize different kinds of differential equations, determine the existence and uniqueness of solution, select the appropriate methods of solution and interpret the obtained solution. Students are also expected to relate differential equations to various practical engineering and scientific problems as well as employ computer technology in solving and verifying solutions. *Pre-req: MATH153B; Co-req: None*

MATH343A - Engineering Mathematics 1   **3 units**
The course aims to provide a series of lectures to improve the students' knowledge and skills in College Algebra and Plane Trigonometry. *Pre-req: None; Co-req: None*

MATH343B - Engineering Mathematics 2
3 units

The course aims to provide a series of lectures to improve the students' knowledge and skills in Analytic Geometry and Solid Mensuration. *Pre-req: MATH343A; Co-req: None*

B. NATURAL/ PHYSICAL SCIENCES

CHM083/ CHM081L- Chemistry for Engineers/ Chemistry for Engineers Lab
3/1 units

Basic concepts of matter and its classification; mass relationships in chemical reactions; properties of gases, liquids, and solids; concepts of thermochemistry; quantum theory and electronic behavior; periodic relationship of elements in the periodic table; intramolecular forces; and solutions. Lecture - *Pre-req: None; Co-req: CHM081L*; Laboratory - *Pre-req: None Co-req: CHM083*

PHY083 / PHY081L - Physics for Engineers / Physics for Engineers Lab
3/1 units

Lecture: This course covers vectors; kinematics; dynamics; work, energy, and power; impulse and momentum; rotation; dynamics of rotation; elasticity; and oscillation. Fluids; thermal expansion, thermal stress; heat transfer; calorimetry; waves; electrostatics; electricity; magnetism; optics; image formation by plane and curved mirrors; and image formation by thin lenses.

Laboratory: A fundamental laboratory course designed to provide opportunity to observe and apply the principles and theories taught in the physics. *Lecture - Pre-req: MATH153A; Co-req: MATH153B, PHY081L; Laboratory - Pre-req: MATH153A; Co-req: MATH153B, PHY083*

C. BASIC ENGINEERING SCIENCES

DRW021L - Engineering Drawing
1 unit

The course deals with the practices and techniques of graphical communication; application of drafting instruments, lettering scale, and units of measure; descriptive geometry; orthographic projections; auxiliary views; dimensioning; sectional views; pictorial drawings; requirements of engineering working drawings; and assembly and exploded detailed drawings. *Pre-req: None; Co-req: None*

DRW051L - Computer-Aided Drafting
1 unit

The course deals with the concepts of computer-aided drafting (CAD); introduction to the CAD environment; terminologies; and the general operating procedures and techniques in entering and executing basic CAD commands. *Pre-req: DRW021L; Co-req: None*

CoENG001L - Computer Fundamentals and Programming Lab
1 unit

This course tackles the basic information technology concept: the computer and computing system, algorithms and flowcharts, basic DOS commands, Number Systems, the Internet, and computer solutions to engineering problems. It also covers advanced activities in MS Word, PowerPoint and Excel applications. Concepts of basic programming using a high-level language and C programming in developing and computing source codes for the programming exercises. *Pre-req: None; Co-req: None*

ENGG003 - Statics of Rigid Bodies
3 units

The course deals with the forces acting on non-moving bodies. It covers concurrent and non-concurrent forces, operation with the free-body concepts, equilibrium of coplanar and non-coplanar systems, friction forces, centroids and moments of inertia. *Pre-req: MATH153B, Phy083, Phy081L; Co-req: None*

ENGG002 - Dynamics of Rigid Bodies
2 units

The course deals with the forces acting on bodies in motion. It includes kinematics of machines and kinetics of particles of rigid bodies such as rectilinear and curvilinear translation and rotational motions. *Pre-req: ENGG003; Co-req: None*

ENGG064 - Mechanics of Deformable Bodies
4 units

Axial stress and strain; stresses for torsion and bending; combined stresses; beam deflections; indeterminate beams; and elastic instability. *Pre-req: ENGG003; Co-req: None*

ENGG103 - Engineering Economics
3 units

This course is an introduction to the concepts of the time value of money and equivalence; basic economy study methods; decisions under certainty; decisions recognizing risk; and decisions admitting uncertainty. *Pre-req: MATH153A: None; Co-req: None*

ENGG112 - Engineering Management
2 units

This course focuses on decision-making; the functions of management; managing production and service operations; managing the marketing function; and managing the finance function. *Pre-req: None; Co-req: None*

ENGG193 - Technopreneurship
3 units

This is a course on entrepreneurship with emphasis on the technology industry. The course introduces specific issues and characteristics found in the technology industry like history of technology, technology organization, marketing technology, financing technology ventures, governmental and legal factors like patents and copyright and technology strategies. The course also covers the value of professional and life skills in entrepreneurial thought, investment decisions, and actions that students can utilize in starting technology companies or executing R&D projects in companies. *Pre-req: GECELEC2; Co-req: None*

D. ALLIED COURSES

EE012B - Basic Electrical Engineering
2 units

This course covers the fundamentals of both DC and AC circuits. It covers principles, basic laws and theorems used in analyzing electrical circuits in both direct current and alternating current conditions. *Pre-req: Phy083, Phy081L, co-req: EE011B-L*

EE011B-L - Basic Electrical Engineering Lab
1 unit

The laboratory component of EE012B (Basic Electrical Engineering) where fundamentals of DC and AC circuits are applied. *Pre-req: Phy083, Phy081L, Co-req: EE012B*

EE062B - Basic Electronics   2 units

This course discusses the construction, operation, and characteristics of basic electronics devices such as PN junction diode, light emitting diode, Zener diode, Bipolar junction transistor and filed effect transistor. Diode circuit applications such as clipper, clamper and switching diode circuits will be part of the lecture. Operation of a DC regulated power supply as well as analysis of BJT and FET amplifier circuit will be tackled. This course also discusses the operation and characteristics of operational amplifiers.
Pre-req: EE012B, EE011B-L, Co-req: EE061B-L

EE061B-L - Basic Electronics Lab   1 unit

The laboratory component of EE062B (Basic Electronics) where construction, operation, and characteristics of basic electronics devices are applied. *Pre-req: EE012B, EE011B-L, co-req: EE062B*

EE022C - DC and AC Machinery   2 units

The course deals with performance characteristics and operation including losses and efficiencies of DC and AC machines such as alternators, induction/synchronous motors, synchronous converters and transformers. It includes demonstrations and laboratory experiments. *Pre-req: EE012B, EE011B-L; Co-req: EE021C-L*

EE021C-L - DC and AC Machinery Lab   1 unit

The laboratory component of EE022C (DC and AC Machinery) where performance characteristics and operation of DC and AC machines are applied. *Pre-req: EE012B, EE011B-L; Co-req EE022C*

E. FUNDAMENTAL COURSES

ME001-18 - Orientation to ME   1 unit

The course introduces Mechanical Engineering as a discipline and its various applications. It also discusses ME as a profession with emphasis on the requirements for professional practice as well as career opportunities. The course also provides venues to develop engineering skills in order to succeed in engineering studies. *Pre-req: None; Co-req: None*

MATHME253 - Advanced Engineering Math for ME   3 units

This is the numerical techniques used in engineering applications such as finding roots of equations, curve fitting, interpolation, numerical differentiation and integration, systems of linear algebraic equations, solution to non-linear equations, and solutions to ordinary differential equations. *Pre-req: MATH223; Co-req: None*

ME102-23 - Methods of Research for ME   1 unit

This course covers the study of the methodologies used in conducting an engineering research. It includes the types and application of research, characteristics of a good research, research design, research instruments and data gathering procedures. It also deals with the study of writing a research proposal and various formats. *Pre-req: None; Co-req: ME-PS1*

ME001L - Workshop Theory and Practice Lab   1 unit
The course deals with the basic principles of machine shop practices. It includes workshop safety and organization; simple workshop measuring instruments, hand tools, fitting bench work, bench drill and bench grinder; sheet metal working; principles of welding processes; welding metallurgy; joining processes; testing and inspection of welds; foundry and metal casting. *Pre-req: None; Co-req: None*

ME002L - Machine Shop Theory and Practice Lab   2 units
The course deals with use and operations of machines such as lathes, shapers, planers, drilling and boring machines, milling machine, cutters, grinding machines, machine tools and accessories. It covers technological advances in metal working and new innovations in machine shop.
Pre-req: ME001L; Co-req: None

ME043C - Thermodynamics I   3 units
A course dealing with the thermodynamic properties of pure substances, ideal and real gases and the study and application of the laws of thermodynamics in the analysis of processes and cycles. It includes introduction to vapor and gas cycles. *Pre-req: MATH153B, Phy083, Phy081L; Co-req: None*

ME043D - Thermodynamics II   3 units
This course is aimed to further enhance the student's knowledge regarding the principles of Thermodynamics by using these principles in practical application specifically in the field of power generation. This includes study of real gases, properties of gas and vapor mixtures and introduction to reactive systems.
Pre-req: ME043C, Co-req: ME071B-L1

ME032C - Machine Elements   2 units
The course deals with the study of mechanisms disregarding the forces and energies that causes the motion. It provides emphasis on the analytical and graphical study of displacement, velocity and acceleration. This also includes the study of the elements of mechanisms such as gears, train, rolling bodies, belt and pulleys, cams and followers. *Pre-req: Drw051L, Phy083, Phy081L; Co-req: ME031C-L*

ME031C-L - Machine Elements Lab   1 unit
The laboratory component of ME032C (Machine Elements). *Pre-req: MATH153B, Phy083, Phy081L; Co-req: None*

ME052B - Materials Science and Engineering for ME   2 units
The course deals with the properties of engineering materials including mechanical, acoustical, electrical, magnetic, chemical, optical and thermal properties. Laboratory experiments using equipment include tension, compression, bending, shear, torsion and impact tests.
Pre-req: ENGG064, CHM083, CHM081L; Co-req: ME051B-L

ME051B-L - Materials Science and Engineering for ME Lab   1 unit

The laboratory component of ME052B (Materials Science and Engineering for ME) where properties of engineering materials are applied. *Pre-req: ENGG064, CHM083, CHM081L; Co-req: ME052B*

ME071B-L1 - Mechanical Engineering Lab I   1 unit

The course involves the study and use of devices and instruments to measure pressure, temperature level, flow, speed, weight, area, volume, viscosity, steam quality, and products of combustion. It also includes the study and analysis of fuels and lubricants. *Pre-req: ME002;, Co-req: ME043D*

ENGG093 - Fluid Mechanics   3 units

The course deals with the nature and physical properties of fluids as well as the identification and measurement of fluid properties. It emphasizes the application of conservation laws on mass, energy and momentum to fluid systems either incompressible or compressible flow, inviscid or viscous flow as well as head loss calculation on pipes and fittings. *Pre-req: ME043D; Co-req: None*

ME092B - Heat Transfer   2 units

The course deals with the different modes of heat and mass transfer, laws governing conduction, convection and radiation and its application to the design of common heat exchangers such as condenser, Cooling coils and evaporators; and the environmental impact of their operation. *Pre-req: ME043C; Co-req: None*

ME132B - Vibration Engineering   2 units

This course deals with the fundamental concepts of vibration as it effects operation and performance of machine components. It involves modeling of mechanical systems, derivation of the differential equations for such systems and its varying solutions (responses) based on different excitations. Emphases will be on analysis, design, measurement, damping and computational aspects. *Pre-req: MATHME253; Co-req: None*

ME123A - Fluid Machineries   3 units

The course is a comprehensive study of the principles and theories in the proper operation, selection and application of the most commonly used fluid machineries such as pumps, fans, blowers, compressors and turbines. *Pre-req: ENGG093; Co-req: None*

ME113B - Refrigeration Systems   3 units

The course is designed to provide a thorough foundation of the thermodynamic principles and components of mechanical refrigeration systems; cycles and associated equipment, and the effect of their operation on the environment. *Pre-req: ME092B, ME043D; Co-req: None*

ME082B - Combustion Engineering   2 units

The course deals with principles involved in combustion, carburetion and fuel injection; fundamentals and basic principles of combustion processes, compression and combustion charts, fuels, (manifolds) engine components, engine performance and combustion engine design. *Pre-req: ME092B, ME043D; Co-req: None*

ME072B-L2 - Mechanical Engineering Lab II   2 units

The course involves the study and test of mechanical engineering equipment and machineries such as steam generator, steam turbine, heat exchangers, internal and external combustion engines, pumps, fans, blowers, and compressors. *Pre-req: ME071B-L1; Co-req: None*

ME221 - *Manufacturing & Industrial Processes with Plant Visit   1 unit

A course dealing with the study of industrial and manufacturing processes and the equipment involved in the processes. *Pre-req: ME193, ME191L; Co-req: ME221L*

ME221L - *Manufacturing & Industrial Processes with Plant Visit Lab   1 unit

The laboratory component of ME222 (Manufacturing and Industrial Processes w/ Plant Visits) which includes plant visit to various manufacturing and power plants. *Pre-req: ME193, ME191L; Co-req: ME221*

'*OJT (300 hrs) may be substituted for Manufacturing & Industrial Processes with Plant Visit (ME221) and Manufacturing & Industrial Processes with Plant Visit Laboratory (ME221L).

ENGG183 - Basic Occupational Health and Safety   3 units

This course tackles key Occupational Health and Safety (OSH) concepts, principles and practices that are foundational knowledge requirements applicable in almost all industries. Specifically, it assists learners in identifying the key elements in the OSH situation both here and abroad; determine existing and potential safety and health hazards; identify the range of control measures; discuss pertinent provisions of Philippine laws that refer to occupational safety and health; explain key principles in effectively communicating OSH; identify components of effective OSH programs and demonstrate some skills in identifying hazards and corresponding control measures at the workplace. *Pre-req: None; Co-req: None*

ME262 - Control Engineering   2 units

Introduction to linear control systems, modeling of physical systems, feedback control systems, time-and-frequency domain analysis of control systems, stability of control systems, and applications. *Pre-req: EE062B, EE061B-L; Co-req: ME261L*

ME261L - Control Engineering Lab   1 unit

The laboratory component of ME262 (Control Engineering). *Pre-req: EE062B, EE061B-L; Co-req: ME262*

ME143C - Air Conditioning and Ventilation Systems   3 units

The course deals with the psychometric properties of air; factors affecting human comfort; air distribution and basic duct design; drying, heating and ventilation; cooling load calculations; and, design of an air conditioning system and its components. *Pre-req: ME113B; Co-req: None*

CoENG041L – Computer Applications for ME   1 unit

This course is focus on the use of computer applications in the design and analysis of mechanical engineering problems, including computer aided drafting, and any specialized computer application. *Pre-req: CoENG001L; Co-req: None*

F. MECHANICAL ENGINEERING PROFESSIONAL COURSES

ME063C - Machine Design I   **3 units**

The course deals with various mechanical properties of engineering materials in lieu of the determination of design factor and design stresses. It includes the analyses of simple, variable and combined stresses applied to different mechanical elements such as shafts, mechanical springs. *Pre-req: ENGG064, ME032C, ME031C-L; Co-req: None*

ME062D - Machine Design II   **2 units**

This course is a continuation of ME063C (Machine Design I) which involves the analysis of simple, variable and combined stresses applied to the different machine elements such as flywheels, brakes and clutches, bearings, flexible power transmissions such as belts, wire ropes and chains. It also includes analysis and synthesis of machineries which consist of two or more machine elements preferably using an application software. *Pre-req: ME063C; Co-req: ME061D-L*

ME061D-L - Machine Design II Lab   **1 unit**

The laboratory component of ME062D (Machine Design II). *Pre-req: ME063C; Co-req: ME062D*

ME153A - Industrial Plant Engineering and Design   **3 units**

A study of mechanical engineering theories, equipment and systems that are needed in the operation of an industrial/ manufacturing plant. *Pre-req: ME072B-L2, ME082B, ME113B; Co-req: ME151A-L*

ME151A-L - Industrial Plant Engineering and Design Lab   **1 unit**

The laboratory component of ME153A (Industrial Plant Engineering and Design) where mechanical engineering theories, equipment, and systems are applied. *Pre-req: ME072B-L2, ME082B,ME113B; Co-req: ME153A*

ME-PS1 - **ME Project Study I**   **1 unit**

The first phase of mechanical engineering project study involving writing and defense of the project proposal. *Pre-req: ME063C, ME082B, ME113B, ME072B-L2; Co-req: ME102-23*

ME-PS2 - **ME Project Study II**   **1 unit**

The second phase of mechanical engineering project study which includes the completion and final defense of the approved project. *Pre-req: ME-PS1; Co-req: None*

ME182A - ME Laws, Ethics, Codes, and Standards   **2 units**

The course deals with the study of Mechanical Engineering law, contracts, codes of ethics and ethical issues in the practice of engineering. Familiarization with the technical codes and standards are included. *Pre-req: GEC073; Co-req: None*

ME193 - Power Plant Design w/ Renewable Energy 3 units

The course deals with the study of the fundamental concepts in the design and installation of typical power plants such as steam power plant, diesel electric plant, geothermal power plant as well as other generating plants. It includes the discussion of renewable energies such as solar, wind, tidal, hydro-electric, bio-mass, OTEC and others. *Pre-req: ME153A, ME151A-L; Co-req: ME191L*

ME191-L - Power Plant Design w/ Renewable Energy Lab 1 unit

The laboratory component of ME193 (Power Plant Design w/ Renewable Energy) where the fundamental concepts in the design and installation of typical power plants are applied. *Pre-req: ME153A, ME151A-L; Co-req: ME193*

ME072B-L3 - Mechanical Engineering Lab III 2 units

The course deals with the performance analysis and evaluation of refrigeration, air conditioning and ventilation systems and power plants. *Pre-req: ME072B-L2; Co-req: None*

G. TECHNICAL ELECTIVES

ME-ELEC1 - ME Elective 1 3 units

The objective of this course is to provide the students with an in-house review in Mathematics and Basic Engineering Sciences, Industrial and Power Plant Engineering, and Machine Design that will help prepare the students in their upcoming board exam. *Pre-req: ME153A, ME151A-L; Co-req: ME-ELEC2*

ME-ELEC2 - ME Elective 2 3 units

The objective of this course is to provide the students with an in-house review in Mathematics and Basic Engineering Sciences, Industrial and Power Plant Engineering, and Machine Design that will help prepare the students in their upcoming board exam. *Pre-req: ME153A, ME151A-L; Co-req: ME-ELEC1*

H. INSTITUTIONAL COURSES

ME-ST006 – Special Topics for ME 6 units

The objective of this course is to provide the students with an in-house review in Mathematics and Basic Engineering Sciences, Industrial and Power Plant Engineering, and Machine Design that will help prepare the students in their upcoming board exam. *Pre-req: ME193, ME191L; Co-req: None*

PROGRAM DESCRIPTION

Bachelor of Science in Electrical Engineering is a field of engineering that focuses on the study, design, development, and application of electrical systems, equipment, and devices. It deals with the generation, transmission, distribution, and utilization of electrical energy. Electrical Engineering is a profession that involves the conceptualization, development, design, improvement and application of safe, healthy, ethical and economical way of utilizing materials and energy in unit Processes and operations for the benefit of society and the environment through the knowledge of mathematics, chemistry, biology, information technology and other natural, applied and social sciences, research, and practice.

Electrical engineering offers a wide range of career opportunities across various industries. Some potential career paths for electrical engineering are Power Systems Engineer, Control System Engineer, Operations Engineer, Product Development Electrical Design Engineer, Field Service Engineer, Renewable Energy Engineer, Research and Development Engineer, Quality Assurance Engineer and Project Manager. The field is vast, and specific roles may vary depending on your specialization, experience, and industry focus.

Program Educational Objectives

Three to five years after graduation, the BS Electrical Engineering (BSEE) alumni shall:
1. Advance their practice in the field of electrical engineering;
2. Assume at least a supervisory position in the same or related field of endeavor;
3. Manifest proper ethical principles and values founded in Filipino, Dominican and Christian orientation;
4. Contribute goodwill in the country and other nations; and
5. Pursue advance education and professional training activities to become world class professionals.

Program Outcomes and Performance Indicators

Upon completion of BS Electrical Engineering (BSEE), the graduate, who is trained in a culture of conscience and excellence with Filipino, Dominican, and Christian in orientation, must be able to:

Program Outcomes	Performance Indicators
1. Articulate and discuss the latest developments in the specific field of practice and demonstrate a service orientation in one's profession	• Engage in continual learning and service in one's specialization
2. Preserve and promote Filipino historical and cultural heritage (based on RA No. 7722)	• Demonstrate responsible Filipino citizenship in local, national or international communities

3. Participate in various types of employment, development activities, and public discourses, particularly in response to the needs of the communities one serves	• Plan and take action for the welfare of the community • Continually engage oneself in development projects and activities that address the community needs
4. Manifest strong commitment and conviction to the Christian and Dominican teachings and philosophy in thoughts, words, and deeds	• Observe the Dominican values of study, prayer, community, and service • Uphold ecological consciousness and engage in environmental stewardship
5. Manifest competencies supporting national, regional and local development plans	• Use appropriate technique/s that can be applied in developing a project for national, regional, or local consumption. • Perform preliminary and detailed design that satisfies all the requirements, maximizing the resources available. • Develop technology-based project for national, regional, or local consumption.
6. Apply knowledge of mathematics and science to solve complex electrical engineering problems.	• Analyze the parameters from the given data needed in solving the problem. • Formulate the needed equation in solving the problem. • Develop the procedure in solving the problem. • Apply the appropriate mathematical tools in solving the problem.

7. Develop and conduct experiments, as well as to analyze and interpret data	- Define objectives of the experiment - Collect sufficient and appropriate data to support the objectives of the experiment - Analyze data using appropriate methods - Relate data analysis to the objectives of the experiment - Draw out appropriate or reasonable conclusions
8. Design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability, in accordance with standards	- Gather information on relevant fundamentals, theory / concepts, similar existing systems (demonstrate technical competence). - Define the problem and identify the design constraints, which may include economic, environmental, political, ethical, and health and safety constraints - Define functional requirements for the design (specific required actions necessary for the design to be achieved). - Perform preliminary and detailed design that satisfies all the requirements, maximizing the resources available. - Systematically present the designed system, component, or process
9. Work/Function effectively and independently in multi-disciplinary and multi-cultural teams	- Perform independently and cooperatively to accomplish worthwhile goals

	- Fulfill team role's duties as a member in any kind of group project or activity - Fulfill team role's duties as a member leader in any kind of group project or activity - Share in a team-based work
10. Identify, formulate, and solve complex electrical engineering problems	- Identify problem/s in a community that requires expertise in electrical engineering based on needs assessment - Formulate problem statement, objectives, scope, and limitations, and identify resources required to solve the problems - Provide technical solution/s to the problem that is acceptable to the stakeholders - Demonstrate the use of appropriate modern tools to solve the problems
11. Act in recognition of professional, social, and ethical responsibility	- Apply professional standards (use of handbooks, codes, standards) in obtaining, reporting, analyzing data or in crafting design. - Demonstrate high academic standards, personal responsibilities, and exercise good judgment and discretion.

	- Immerse in an actual working environment in industry - Evaluate the ethical and societal implications of a design solution to problem in electrical engineering
12. Effectively communicate orally and in writing using English, Filipino, mother tongue language, and an appropriate Foreign Language required by the industry	- Express oneself clearly in verbal or written forms the updates in one's career or vocation - Organize presentation/reports in well-structured logical sequence, making it easy for audience/reader to follow clearly the content - Convey positive Filipino values in one's decisions and actions - Present a proposed solution in class or in a public forum - Defend satisfactorily his/her thesis/design project from a panel of experts
13. Identify and analyze the impact of electrical engineering solutions in a global, economic, environmental, and societal context	- Investigate a given engineering problem and propose related solutions. - Analyze the short and long-term impact (political, economic, environmental, health and safety, cultural) of proposed solutions on society (individual, local, regional or global context).

	- Choose the best engineering solution that will have the best impact on the society. - Criticize/ justify the effects of engineering solutions to a given problem.
14. Recognize the need for and engage in life-long learning	- Aware of the need for life-long learning. - Engaged in life-long learning activities.
15. Know, articulate, and discuss contemporary issues and development in the specific field of practice	- Identify and relate in a variety of contemporary issues or topic - Discuss technical issues relevant to field of practices - Design the appropriate technique that can be applied in assessing the interrelationships of the cited contemporary issues
16. Apply techniques, skills, and modern engineering tools necessary for computer engineering practice	- Utilize problem solving and design techniques/methods in their discipline. - Solve problems using current software used in the discipline. - Utilize the available hardware/equipment used in the discipline

17. Apply knowledge of engineering and management principles as a member and leader of a team, and to manage projects in a multi-disciplinary environment	• Understand the fundamentals of team dynamics and leadership • Function as an effective member or leader of diverse engineering teams and earn the trust and confidence of colleagues through competent and timely completion of tasks • Recognize the value of alternative and various viewpoints, and to know the importance of professional networking from other team members • Confidently pursue and discern expert assistance and professional advice from other members • Take initiative and fulfill the leadership role, while respecting the agreed roles of others
18. Infer at least one specialized field of computer engineering practice	• Identify and relate in a variety of specialized fields of Computer Engineering practice. • Discuss technical issues relevant to fields of practice. • Design the appropriate technique that can be applied in assessing the inter-relationships of the cited specialized fields of Computer Engineering practice.

BACHELOR OF SCIENCE IN ELECTRICAL ENGINEERING
GENERAL SUMMARY OF COURSES

I. General Education Courses

A. Core Courses   24

GEC003	Understanding the Self	3
GEC013	Science, Technology, and Society	3
GEC023	Mga Babasahin Hinggil sa Kasaysayan ng Pilipinas	3
GEC033	Mathematics in the Modern World	3
GEC043	The Contemporary World	3
GEC053	Art Appreciation	3
GEC063	Purposive Communication	3
GEC073	Ethics	3

B. CHED Mandated Courses   26

a. Rizal Course

RZL023	Buhay at Mga Akda ni Rizal	3

b. Physical Education Courses

PATHFIT1002	Movement Competency Training	2
PATHFIT2022	Exercise Based Fitness Activities	2
PATHFIT3032	Individual/Dual Sports	2
PATHFIT4042	Contemporary Dance	2

c. National Service Training Program

NSTP1-18	National Service Training Program 1	3
NSTP2-18	National Service Training Program 2	3

d. GENED Elective Courses

GECELEC1	Living in the IT Era	3
GECELEC2	The Entrepreneurial Mind	3
GECELEC3	Philippine Popular Culture	3

C. Institutional Mandated Courses   24

a. Religious Education Courses

RELED053	The Catholic Christian Faith	3
RELED063	Contemporary Issues in Christian Marriage	3
RELED073	Contemporary Issues About Church and Human Society with	3
RELED083	Christian Ethics	3

b. Letran Quality Enrichment Courses

LQEC23-013	Letran Quality Enhancement Course I (Letran Calamba	3
LQEC23-023	Letran Quality Enhancement Course II (21st Century Literacy	3

	EE-ST006	Special Topics for EE	6

II. TECHNICAL COURSES

A. Mathematics   18

MATH153A	Calculus 1	3
MATH153B	Calculus 2	3
MATH223	Differential Equations	3
MATH323	Engineering Data Analysis	3
MATH343A	Engineering Mathematics 1	3
MATH343B	Engineering Mathematics 2	3

B. Natural/Physical Sciences   8

CHM083	Chemistry for Engineers	3
CHM081L	Chemistry for Engineers Lab	1
PHY083	Physics for Engineers	3
PHY081L	Physics for Engineers Lab	1

C. Basic Engineering Sciences   10

Drw051L	Computer Aided Drafting	1
ENGG013	Engineering Mechanics	3
ENGG103	Engineering Economics	3
ENGG193	Technopreneurship	3

D. Allied Courses   35

CoENG001L	Computer Fundamentals and Programming Lab	1
EE042	Electromagnetics	2
EE053	Electronic Circuits: Devices and Analysis	3
EE051L	Electronic Circuits: Devices and Analysis Lab	1
EE103B	Fundamentals of Electronic Communications	3
EE173A	Industrial Electronics	3
EE171A-L	Industrial Electronics Lab	1
EN243	Logic Circuits and Switching Theory	3
EN253	Microprocessors	3
ENGG043	Materials Science and Engineering	3
ENGG062	Fundamentals of Deformable Bodies	2
ENGG072	Basic Thermodynamics	2
ENGG083	Environmental Science and Engineering	3
ENGG092	Fluid Mechanics	2
ENGG183	Basic Occupational Safety and Health	3

E. Professional Courses   59

EE033A	Electrical Circuits I	3
EE031A-L	Electrical Circuits I Lab	1

EE033B	Electrical Circuits II	3
EE031B-L	Electrical Circuits II Lab	1
EE093B	Power System Analysis	3
EE091B-L	Power System Analysis Lab	1
EE112B	Instrumentation and Control	2
EE111B-L	Instrumentation and Control Lab	1
EE122A	Electrical Machines 1	2
EE123B	Electrical Machines 2	3
EE121B-L	Electrical Machines 2 Lab	1
EE163A	Electrical Systems and Illumination Engineering Design	3
EE162A-L	Electrical Systems and Illumination Engineering Design Lab	2
EE192A	EE Laws, Codes, and Professional Ethics	2
EE201A-L	Seminars/Colloquia Lab	1
EE262A	Electrical Apparatus and Devices	2
EE261A-L	Electrical Apparatus and Devices Lab	1
EE311L	Fundamentals of Power Plant Engineering Design Lab	1
EE321L	Electrical Standards and Practices Lab	1
EE323	Engineering Mathematics for EE	3
EE332	Distribution Systems and Substation Design	2
EE331L	Distribution Systems and Substation Design Lab	1
EE342	Management of Engineering Projects	2
EE381L	Research Method Lab	1
EE-Elec1	EE Elective 1	3
EE-Elec2	EE Elective 2	3
EE-PRC3	Practicum (300 hrs)	3
EE-RP-L	Research Project Lab	1
EN233	Feedback and Control Systems	3
MATH302	Numerical Methods and Analysis	2
MATH301L	Numerical Methods and Analysis Lab	1

TOTAL UNITS   204

BACHELOR OF SCIENCE IN ELECTRICAL ENGINEERING
Curriculum Year 2023-2024

COURSE CODE	COURSE TITLE	Lec Units/Hours	Lab Units	Lab Hrs	TOTAL	PRE-REQUISITES/ CO-REQUISITES
FIRST YEAR, First Semester						
CHM081L	Chemistry for Engineers Lab		1	3	*1*	co-req CHM083
CHM083	Chemistry for Engineers	3			*3*	co-req CHM081L
DRW051L	Computer Aided Drafting		1	3	*1*	
GEC013	Science, Technology, and Society	3			*3*	
GEC063	Purposive Communication	3			*3*	
LQEC23-013	Letran Quality Enhancement Course I (Letran Calamba Identity and 21st Century Learning Skills)	3			*3*	
MATH153A	Calculus 1	3			*3*	
MATH343A	Engineering Mathematics 1	3			*3*	
NSTP1-18	National Service Training Program 1	3			*3*	
PATHFIT1002	Movement Competency Training	2			*2*	
	Total	23	2	6	25	
FIRST YEAR, Second Semester						
CoENG001L	Computer Fundamentals and Programming Lab		1	3	*1*	
GEC003	Understanding the Self	3			*3*	
GEC033	Mathematics in the Modern World	3			*3*	
MATH153B	Calculus 2	3			*3*	MATH153A, co-req PHY083, PHY081L
MATH323	Engineering Data Analysis	3			*3*	MATH153A
MATH343B	Engineering Mathematics 2	3			*3*	MATH343A
NSTP2-18	National Service Training Program 2	3			*3*	NSTP1-18
PATHFIT2022	Exercise-Based Fitness	2			*2*	PATHFIT1002
PHY081L	Physics for Engineers Lab		1	3	*1*	MATH153A, co-req MATH153B, PHY083
PHY083	Physics for Engineers	3			*3*	MATH153A, co-req MATH153B, PHY081L
RELED053	The Catholic Christian Faith	3			3	
	Total	26	2	6	28	
SECOND YEAR, First Semester						
EE031A-L	Electrical Circuits 1 Lab	3			*3*	MATH153B, PHY083, PHY081L, co-req EE033A
EE033A	Electrical Circuits 1		1	3	*1*	MATH153B, PHY083, PHY081L, co-req EE031A-L
ENGG013	Engineering Mechanics	3			*3*	PHY083, PHY081L
ENGG072	Basic Thermodynamics	2			*2*	PHY083, PHY081L
GEC073	Ethics	3			*3*	
GECELEC1	Living the IT Era	3			*3*	
LQEC23-023	Letran Quality Enrichment Course II (21st Century Literacy Skills & Life Skills and Sustainability)	3			*3*	LQEC23-013
MATH223	Differential Equations	3			*3*	MATH153B
PATHFIT3032	Individual/Dual Sports	2			*2*	PATHFIT1002, PATHFIT2022
RELED063	Contemporary Issues in Christian Marriage	3			*3*	RELED053
	Total	25	1	3	26	
SECOND YEAR, Second Semester						
EE031B-L	Electrical Circuits 2 Lab	3			*3*	EE033A, EE031A-L, co-req E033B
EE033B	Electrical Circuits 2		1	3	*1*	EE033A, EE031A-L, co req EE031B-L
EE042	Electromagnetics	2			*2*	MATH223, PHY083, PHY081L
EE051L	Electronic Circuits; Devices and Analysis Lab		1	3	*1*	EE033A, EE031A-L, co req EE051L, EE103B
EE053	Electronic Circuits; Devices and Analysis	3			*3*	EE033A, EE031A-L, co req EE053, EE103B
EE103B	Fundamentals of Electronic Communications	3			*3*	co-req EE053, EE051L
ENGG062	Fundamentals of Deformable Bodies	2			*2*	ENGG013

	Code	Course Title	Lec	Lab	Hrs	Units	Pre-requisite/Co-requisite
	GEC043	The Contemporary World	3			3	
	GECELEC2	The Entrepreneurial Mind	3			3	
	PATHFIT4042	Contemporary Dance	2			2	PATHFIT1002,PATFIT2022
	RELED083	Christian Ethics	3			3	RELED053
		Total	**24**	**2**	**6**	**26**	

SECOND YEAR, Inter-Semester

	Code	Course Title	Lec	Lab	Hrs	Units	Pre-requisite/Co-requisite
	EE192A	EE Laws, Codes, and Professional Ethics	2			2	GEC073
	EE323	Engineering Mathematics for EE	3			3	MATH223
	ENGG103	Engineering Economics	3			3	MATH153A
		Total	**8**	**0**	**0**	**8**	

THIRD YEAR, First Semester

	Code	Course Title	Lec	Lab	Hrs	Units	Pre-requisite/Co-requisite
	EE122A	Electrical Machines 1	2			2	EE033B,EE031B-L, EE042
	EE171A-L	Industrial Electronics Lab		1	3	1	EE053, EE051L, co-req EE173A
	EE173A	Industrial Electronics	3			3	EE053, EE051L, co-req EE171A-L
	EE261A-L	Electrical Apparatus and Devices Lab		1	3	1	EE033B,EE031B-L, co-req EE262A
	EE262A	Electrical Apparatus and Devices	2			2	EE033B,EE031B-L,co-req EE261A-L
	EE321L	Electrical Standards and Practices Lab		1	3	1	EE192A
	EN233	Feedback and Control Systems	3			3	EE053, EE051L, EE323
	EN243	Logic Circuits and Switching Theory	3			3	EE053, EE051L
	ENGG092	Fluid Mechanics	2			2	PHY083, PHY081L
	GEC023	Mga Babasahin Hinggil sa Kasaysayan ng Pilipinas	3			3	
	GECELEC3	Philippine Popular Culture	3			3	
	MATH301L	Numerical Methods and Analysis Lab		1	3	1	EE323, co-req MATH302
	MATH302	Numerical Methods and Analysis	2			2	EE323, co-req MATH301L
		Total	**23**	**4**	**12**	**27**	

THIRD YEAR, Second Semester

	Code	Course Title	Lec	Lab	Hrs	Units	Pre-requisite/Co-requisite
	EE091B-L	Power System Analysis Lab		1	3	1	EE321L, co-req EE093B, EE332, EE331L,EE311L
	EE093B	Power System Analysis	3			3	EE321L, co-req EE091B-L, EE332, EE331L,EE311L
	EE121B-L	Electrical Machines 2 Lab		1	3	1	EE122A, co-req EE123B
	EE123B	Electrical Machines 2	3			3	EE122A, co-req EE121B-L
	EE201A-L	Seminars/Colloquia Lab		1	3	1	co-req EE381L
	EE311L	Fundamentals of Power Plant Engineering Design Lab		1	3	1	co-req EE093B, EE091B-L
	EE331L	Distribution Systems and Substation Design Lab		1	3	1	co-req EE093B, EE091B-L, EE332
	EE332	Distribution Systems and Substation Design	2			2	co-req EE093B, EE091B-L, EE331L
	EE381L	Research Method Lab		1	3	1	EE122A, co-req EE201A-L
	EN253	Microprocessors	3			3	EN243
	ENGG193	Technopreneurship	3			3	
	RELED073	Contemporary Issues About Church and Human Society with Immersion	3			3	RELED053
	RZL023	Buhay at Mga Gawa ni Rizal	3			3	
		Total	**20**	**6**	**18**	**26**	

THIRD YEAR, Inter-Semester

	Code	Course Title	Lec	Lab	Hrs	Units	Pre-requisite/Co-requisite
	EE111B-L	Instrumentation and Control Lab		1	3	1	EN233, co-req EE112B
	EE112B	Instrumentation and Control	2			2	EN233, co-req EE111B-L
	EE-Elec1	EE Elective 1	3			3	EE093B, EE091B-L
		Total	**5**	**1**	**3**	**6**	

	Code	Course Title		Lec	Lab	Units	Prerequisite
	EE162A-L	Electrical Systems and Illumination Engineering Design Lab			2	6	2	EE123B, EE121B-L, co-req EE163A
	EE163A	Electrical Systems and Illumination Engineering Design		3			3	EE123B, EE121B-L, co-req EE162A-L
	EE342	Management of Engineering Projects		2			2	ENGG103
	EE-Elec2	EE Elective 2		3			3	EE-Elec1
	EE-RP-L	Research Project Lab			1	3	1	EE381L
	ENGG043	Materials Science and Engineering		3			3	CHM083, CHM081L, ENGG062
	ENGG083	Environmental Science and Engineering		3			3	CHM083, CHM081L
	ENGG183	Basic Occupational Safety and Health		3			3	
	GEC053	Art Appreciation		3			3	
			Total	**20**	**3**	**9**	**23**	

	Code	Course Title		Lec	Lab	Units	Prerequisite
	EE-PRC3	Practicum (300 hrs)*		3			3	EE163A, EE162A-L
	EE-ST006	Special Topics for EE		6			6	EE-Elec2
			Total	**9**	**0**	**0**	**9**	
		GRAND TOTAL		**183**	**21**	**63**	**204**	

*Practicum - No simultaneous enrollment is allowed.

jrd/03072023

COURSE DESCRIPTION

I. GENERAL EDUCATION COURSES

A. CORE COURSES

GEC003 - Understanding the Self   **3 units**

The course discusses the nature of identity, its factors and forces that affect the development and maintenance of personal identity. It is intended to facilitate the exploration of the issues and concerns regarding self and identity to arrive at a better understanding of one's self. It strives to meet this goal by stressing the integration of the personal with the academic — contextualizing matters discussed in the classroom and in the everyday experiences of students — making for better learning, generating a new appreciation for the learning process, and developing a more critical and reflective attitude while enabling them to manage and improve their selves to attain a better quality of life.

This also includes mandatory topics on Family Planning and Population Education. *Pre-req: None; Co-req: None*

GEC013 - Science, Technology, and Society   **3 units**

The course deals with interactions between science and technology and social cultural, political, and economic contexts, which shape and are shaped by them.

The interdisciplinary course engages students to confront the realities brought about by science and technology in society. Such realities pervade the personal, the public, and the global aspects of our living and are integral to human development. Scientific knowledge and technological development happen in the context of society with all its socio-political, cultural, economic, and philosophical underpinnings at play. This course seeks to instill reflective knowledge in the students that they are able to live the good life and display ethical decision making in the face of scientific and technological advancement.

This also includes discussion of climate change and environmental awareness as well as the implementation of the different environmental protection laws. *Pre-req: None; Co-req: None*

GEC023 - Mga Babasahin Hinggil sa Kasaysayan ng Pilipinas   **3 units**

Ang kursong ito ay tumatalakay sa mga piling primaryang sanggunian ukol sa iba't ibang yugto ng kasaysayan ng Pilipinas, pagsusuri at interpretasyon. Isasama din ang pagtalakay sa konstitusyon ng Pilipinas simula sa taong 1899 hanggang sa taong 1987. Ganun din ang pagtalakay sa repormang agraryo. Gayundin ang pagtalakay sa pagbubuwis bilang instrumento ng pamahalaan. Ito ay may kaugnayan sa tibay ng pagbubuwis bilang isa sa tatlong kapangyarihan ng pamahalaan na nakasaad sa Saligang Batas taong 1987. *Pre-req: None; Co-req: None*

GEC033 - Mathematics in the Modern World   **3 units**

The course discusses the nature of Mathematics, appreciation of its practical, intellectual, and aesthetic dimensions, and application of mathematical tools in daily life. *Pre-req: None; Co-req: None*

GEC043 - The Contemporary World   **3 units**

The course discusses globalization and its impact on individuals, communities and nations, challenges and responses. It introduces students to the contemporary world by examining the multifaceted phenomenon of globalization. Using the various disciplines of the social sciences, it examines the economic, social, political, technological, and other transformations that have created an increasing awareness of the interconnectedness of people and places around the globe. It provides an overview of the various debates in global governance, development, and sustainability. Beyond exposing the student to the world outside the Philippines, it seeks to inculcate a sense of global citizenship and global ethical responsibility.

This also includes mandatory topics on population education in the context of population and demography. *Pre-req: None; Co-req: None*

GEC053 - Art Appreciation   **3 units**

The course discusses the nature, function and appreciation of the arts in contemporary society. It intends to develop students' ability to appreciate, analyze, and critique works of art. Through interdisciplinary and multimodal approaches, this course equips students with a broad knowledge of the practical, historical, philosophical, and social relevance of the arts. This will hone their ability to articulate their understanding of the arts. It will also develop students' competency in researching and curating arts as well as conceptualizing, mounting, and evaluating art productions. The course aims to develop students' genuine appreciation for Philippine arts by providing them opportunities to explore the diversity and richness and their rootedness in Filipino culture. *Pre-req: None; Co-req: None*

GEC063 - Purposive Communication   **3 units**

The course discusses writing, speaking and presenting to different audiences and for various purposes. It develops students' communicative competence and enhances their cultural and intercultural awareness through multimodal tasks that provide them opportunities for communicating effectively and appropriately to a multicultural audience in a local or global context. It equips students with tools for critical evaluation of a variety of texts and focuses on the power of language and the impact of images to emphasize the importance of conveying messages responsibly. *Pre-req: None; Co-req: None*

GEC073 – Ethics   **3 units**

This course covers the context and tenets of ethical behavior in modern society including how individuals and communities interact with the environment and other common resources. It helps one to enhance their grasp of ethics and moral reasoning through the study of numerous theoretical viewpoints and moral experiences that make up so much of the core of daily life. By the end of the course, students should be able to articulate why and how people are seen as moral beings existing in a moral universe with a responsibility to protect themselves, one another, and the environment for everyone. *Pre-req: None; Co-req: None*

B. GENERAL EDUCATION ELECTIVE COURSES

GECELEC1 - Living in the IT Era   **3 units**
This general education elective course discusses how information technology shaped that way of life in the modern era. It discusses the science, culture and ethics information technology as well as how it affects contemporary life and interpersonal interactions and the way it may be used to promote one's social, professional, and personal goals. *Pre-req: None; Co-req: None*

GECELEC2 - The Entrepreneurial Mind   **3 units**
This general education elective course focuses on the nature and fundamentals of entrepreneurship as well as its societal responsibilities and repercussions. It is designed to assist students comprehend the business environment and encourage individuals adopt and innovative mindset. *Pre-req: None; Co-req: None*

GECELEC3 - Philippine Popular Culture   **3 units**
This general education elective course focuses on the emerging potential and expectation of mass audiences, markets and mass media, as well as their social, economic, and political settings, in the field of art, music, and literature. By the completion of the course, students should be able to demonstrate their appreciation of traditional and modern cultural expressions of as well as identify, analyze and develop trends in Philippine culture that have been inspired by various internal and external influences. *Pre-req: None; Co-req: None*

C. CHED MANDATORY COURSES

RZL023 - Buhay at Mga Akda ni Rizal   **3 units**
Ito'y isang pag-aaral sa buhay at gawa ni Gat. Jose Rizal at ang kaugnayan at kahalagahan sa nilalaman ng pangkasaysayang pagsulong ng lipunang Pilipino. Gamit ang istratehiyang 'Dambana" kung saan ang mag-aaral ay maglalaan ng panahon sa Bahay-Rizal sa Calamba, ang mag-aaral ay magiging kabahagi ng Rizal Shrine staff sa edukasyong pangkasaysayan ng mga panauhin sa Bahay-Rizal. *Pre-req: None; Co-req: None*

D. INSTITUTIONAL MANDATED COURSES

LQEC23-013 - Letran Quality Enrichment Course I (Letran Calamba Identity and 21st Century Learning Skills)   **3 units**
LQEC 1 is an enhancement course that is designed to introduce the identity of Colegio de San Juan de Letran Calamba including its history, Dominican spirituality, mission, vision, quality objectives, policies , processes and services. It also introduces the "Four Cs" of 21st Century Learning: Critical Thinking, Creativity, Collaboration and Communication that aims to enhance students' knowledge and awareness of the essential communication concepts and establish deep comprehension of the processes in a creative manner.
Furthermore, it helps the learners to formulate logical and well-thought-out reasoned judgments and promote active engagement with others to achieve a common goal. *Pre-req: None; Co-req: None*

LQEC23-023 - Letran Quality Enrichment Course II (21st Century Literacy Skills & Life Skills and Sustainability) 3 units

LQEC 2 is an enhancement course that is designed to provide basic understanding about leadership, flexibility, initiative, social skills and productivity. It also introduces digital literacy which focuses on fundamental understanding of media, technology, and information as tools for communication and the advancement of people and communities.

Moreover, the course also introduces the concept of Environment, Social, and Governance (ESG) which determines an organization's commitment to sustainability. All of these are necessary to help the learners become competitively employable in the future of work. *Pre-req: LQEC23-013; Co-req: None*

RELED053 - The Catholic Christian Faith 3 units

This course deals with the basic Catholic Christian Doctrine. It highlights the 12 articles of faith in the Apostles Creed, as well as the Sacred Scripture. Thus it guides the students to a life of truth, fidelity and worship to God. *Pre-req: None; Co-req: None*

RELED063 - Contemporary Issues in Christian Marriage 3 units

Contemporary Issues in Christian Marriage is a three unit academic subject. The emphasis of the course is on Marriage and Family presented as a vocation and a sacrament. The study prepares the students for the reception of the sacrament and achievement of a better outlook on the realities and complexities of the married state and family life. *Pre-req: RELED053; Co-req: None*

RELED073 - Contemporary Issues About Church and Human Society with Immersion 3 units

Contemporary Issues About Church and Human Society with Immersion is a three unit academic subject. This course studies the seven themes of the social teachings of the Catholic Church. It also tackles contemporary social issues which hamper the development of our country. An integral part of the course is Makipamuhay, a learning strategy that allows students to experience direct contact with the oppressed in society specifically the rural poor and leads them to develop personal as well as communal witnessing to authentic Christian faith. *Pre-req: RELED053; Co-req: None*

RELED083 - Christian Ethics 3 units

This course presents the foundations and fundamentals of Christian Ethics and their application to issues and concerns related to the Ten Commandments. *Pre-req: RELED053; Co-req: None*

E. PHYSICAL EDUCATION COURSES

PATHFIT1002 - Movement Competency Training 2 units

This course provides training in different movement and core engagement in conjunction with principles of healthy and physical active life. Students will be able to adopt and transfer the movement competency in different contexts. *Pre-req: None; Co-req: None*

PATHFIT2022 - Exercise-Based Fitness   2 units

This course provides experiences in core stability, strength, and mobility training. It includes goal setting exercise progression and regression and periodic assessment for the development of various fitness component. *Pre-req: PATHFIT1002; Co-req: None*

PATHFIT3032 - Individual/Dual Sports   2 units

This course puts emphasis on gaining basic knowledge of individual/dual sports, fitness and lifetime activities. It also includes different kinds of individual/dual sports. Students will learn the skills and game strategies for each sport as well as their historical background and terminology. Activities promote participation in physical activity to achieve good health and wellness.
Pre-req: PATHFIT1002, PATHFIT2022; Co-req: None

PATHFIT4042 - Contemporary Dance   2 units

This course provides the students the foundations of contemporary dance technique and execution. It focuses on various movement concepts at each level, particularly designed solos, and the integration of organized improvisation to provide students, the opportunity to explore and come up with their own movement language. It encourages creativity by fusing elements of jazz, modern dance, lyrical dance, classical ballet, and other disciplines. *Pre-req: PATHFIT1002, PATHFIT2022; Co-req: None*

F. NATIONAL SERVICE TRAINING PROGRAM

NSTP1-18 - National Service Training Program 1   3 units

The National Service Training Program 1 is a curricular offering consisting of lectures and trainings on citizenship, values education, environment and drug education, disaster management, transformational leadership, dimensions of development and literacy and numeracy skills aimed to empower the youth as potential community leaders toward national development. *Pre-req: None; Co-req: None*

NSTP2-18 - National Service Training Program 2   3 units

The National Service Training Program 2 is a sequel to NSTP1. This course is designed to equip the students with the fundamentals of project identifications, planning implementation and evaluation which include but is not limited to lecture and training on social mobilization, community development, and community service. The students are required to undergo the process of community immersion in pursuit of applying the concepts learned in contributing to the general welfare of in the Colegio's partner communities.
Pre-req: NSTP1-18; Co-req: None

II. TECHNICAL COURSES

A. MATHEMATICS

MATH153A - Calculus 1 **3 units**

The course covers the basic concepts of calculus such as limits, continuity and differentiability of functions; differentiation of algebraic and transcendental functions involving one or more variables; applications of differential calculus to problems on optimization, rates of change, related rates, tangents and normals, and approximations; partial differentiation and transcendental curve tracing. *Pre-req: None; Co-req: None*

MATH153B - Calculus 2 **3 units**

The course covers the concept of integration and its application to physical problems such as evaluation of areas, volumes of revolution, force, and work; fundamental formulas and various techniques of integration applied to both single variable and multi-variable functions; tracing of functions of two variables. It includes anti-derivatives, integration methods, definite integrals, multiple integrals, infinite series, and their applications. *Pre-req: MATH153A; Co-req: PHY083, PHY081L*

MATH223 - Differential Equations **3 units**

It covers first order differential equations, nth order linear differential equations and systems of first order linear differential equations. It also introduces the concept of Laplace Transforms in solving differential equations. The students are expected to be able to recognize different kinds of differential equations, determine the existence and uniqueness of solution, select the appropriate methods of solution and interpret the obtained solution. Students are also expected to relate differential equations to various practical engineering and scientific problems as well as employ computer technology in solving and verifying solutions. *Pre-req: MATH155B; Co-req: None*

MATH323 - Engineering Data Analysis **3 units**

This course introduces different methods of data collection and the suitability of using a particular method for a given situation. It includes a coverage and discussion of the relationship of probability to statistics, probability distributions of random variables and their uses, linear functions of random variables within the context of their application to data analysis and inference, estimation techniques for unknown parameters, and hypothesis testing used in making inferences from sample to population, inference for regression parameters and build models for estimating means and predicting future values of key variables under study. Statistically based experimental design techniques and analysis of outcomes of experiments are discussed with the aid of statistical software. *Pre-req: MATH153A; Co-req: None*

MATH343A - Engineering Mathematics 1 **3 units**

The course aims to provide a series of lectures to improve the students' knowledge and skills in College Algebra and Plane Trigonometry. *Pre-req: None; Co-req: None*

MATH343B - Engineering Mathematics 2   3 units

The course aims to provide a series of lectures to improve the students' knowledge and skills in Analytic Geometry and Solid Mensuration. *Pre-req: MATH343A; Co-req: None*

B. NATURAL/ PHYSICAL SCIENCES

CHM083/ CHM081L- Chemistry for Engineers/ Chemistry for Engineers Lab   3/1 units

Basic concepts of matter and its classification; mass relationships in chemical reactions; properties of gases, liquids, and solids; concepts of thermochemistry; quantum theory and electronic behavior; periodic relationship of elements in the periodic table; intramolecular forces; and solutions. *Lecture - Pre-req: None; Co-req: CHM081L; Laboratory - Pre-req: None Co-req: CHM083*

PHY083 / PHY081L - Physics for Engineers / Physics for Engineers Lab   3/1 units

Lecture: This course covers vectors; kinematics; dynamics; work, energy, and power; impulse and momentum; rotation; dynamics of rotation; elasticity; and oscillation. Fluids; thermal expansion, thermal stress; heat transfer; calorimetry; waves; electrostatics; electricity; magnetism; optics; image formation by plane and curved mirrors; and image formation by thin lenses.

Laboratory: A fundamental laboratory course designed to provide opportunity to observe and apply the principles and theories taught in the physics. *Lecture -   Pre-req: MATH153A; Co-req: MATH153B, PHY081L; Laboratory - Pre-req: MATH153A; Co-req: MATH153B, PHY083*

C. BASIC ENGINEERING SCIENCES

DRW051L - Computer-Aided Drafting   1 unit

The course deals with the concepts of computer-aided drafting (CAD); introduction to the CAD environment; terminologies; and the general operating procedures and techniques in entering and executing basic CAD commands. *Pre-req: None Co-req: None*

ENGG013 - Engineering Mechanics   3 units

This course deals with force, moment, and motion concepts. Newton's Laws of Motion. Analysis of particles and rigid bodies in static and dynamic equilibrium using vector mechanics and energy and momentum methods. Geometric properties of lines, areas, and volumes. *Pre-req: PHY083, PHY081L: Co-req: None*

ENGG103 - Engineering Economics   3 units

This course is an introduction to the concepts of the time value of money and equivalence; basic economy study methods; decisions under certainty; decisions recognizing risk; and decisions admitting uncertainty. *Pre-req: MATH153A: None; Co-req: None*

ENGG193 - Technopreneurship   3 units

This is a course on entrepreneurship with emphasis on the technology industry. The course introduces specific issues and characteristics found in the technology industry like history of technology, technology organization, marketing technology, financing technology ventures, governmental and legal factors like patents and copyright and technology strategies. The course also covers the value of professional and life skills in entrepreneurial thought, investment decisions, and actions that students can utilize in starting technology companies or executing R&D projects in companies. *Pre-req: None ; Co-req: None*

D. ALLIED COURSES

ENGG062 - Fundamentals of Deformable Bodies/Mechanics of Deformable Bodies   **2 units**
The course deals with the study of strength of materials where the understanding of how bodies and materials respond to applied loads is the main emphasis. The course covers the fundamental concepts of stresses and strains experienced and/or developed by different materials in their loaded state and subjected to different conditions of constraint that includes axial stress, shearing stress, bearing stress, torsion, flexural stress, and stress-strain relationships. *Pre-req: ENGG013; Co-req: None*

ENGG043 - Materials Science and Engineering   **3 units**
Structure and composition of materials (metals, polymers, ceramics and composites). Processing, properties and behavior in service environments. *Pre-req: CHM083, CHM081L,ENGG062; Co-req: None*

EE053 - Electronic Circuits: Devices and Analysis   **3 units**
The course covers the fundamentals of electronics and electronic circuits with their basic applications. This includes diode and transistor characteristics necessary for elementary analysis of electronic circuits with discrete components. The second half of the course covers integrated circuits commonly used in electrical engineering. *Pre-req: EE033A, EE031A-L; Co-req: EE053, EE103B*

EE051L - Electronic Circuits: Devices and Analysis Lab   **1 unit**
The course introduces students to the design of electronic circuits for basic applications such as filters, power supplies and op amp signal processors. *Pre-req: EE033A, EE031A-L; Co-req: EE051L, EE103B*

ENGG072 – Thermodynamics   **2 units**
A course dealing with the thermodynamic properties of pure substances, ideal and real gases and the study and application of the laws of thermodynamics in the analysis of processes and cycles. It includes introduction to vapor and gas cycles. *Pre-req: MATH223; Co-req: None*

EE173A - Industrial Electronics   **3 units**
This course teaches the theory and operation of solid-state devices and control circuits for industrial processes; industrial control applications; electronics instrumentation; transducers; data acquisition system, power supply and voltage regulator. It also covers photo electronics, sensors and instruments used in industrial applications. It includes variable-frequency drives, DC motor, servomotors and stepper motor drives; application of relay logic circuits; and interfacing and programming of PLCs. *Pre-req: EE053, EE051L; Co-req EE171A-L*

EE171A-L - Industrial Electronics Lab   **1 unit**
The laboratory component of EE173A (industrial Electronics). *Pre-req: EE053, EE051L; Co-req: EE173A*

EE042 – Electromagnetics   **2 units**

The course deals with the study of electric and magnetic fields; resistive, dielectric and magnetic materials, coupled circuits, magnetic circuits and fields, and time-varying electromagnetic fields. It involves a review of vector analysis and types of coordinate system (Cartesian, cylindrical and spherical coordinate systems). Topics covered are dot and cross products of vector, Coulomb's law and electric field intensity of different charge configuration (volume, point, line sheet charge), electric flux density, Gauss's Law, divergence, Maxwell's equations and energy and potential. *Pre-req: MATH223, PHY083, PHY081L; Co-req: None*

ENGG092 Fluid Mechanics   **2 units**

The course deals with the nature and physical properties of fluids as well as the identification and measurement of fluid properties. It emphasizes the application of conservation laws on mass, energy and momentum to fluid systems either incompressible or compressible flow, inviscid or viscous flow as well as head loss calculation on pipes and fittings. *Pre-req: PHY083, PHY081L; Co-req: None*

EE103B - Fundamentals of Electronic Communications   **3 units**

Fundamental principles of electronic communications theory and its applications. Emphasis is on the introduction of electronic communication systems, analysis and calculations of analog and digital modulation, transmission and reception. Provides insights, framework, knowledge and competencies necessary in analyzing basic communication system as a preparation for electronics engineering profession. *Pre-req: None; Co-req: EE053, EE051L*

EN243 - Logic Circuits and Switching Theory   **3 units**

This course includes design and analysis of digital circuits. It course covers both combinational (synchronous and asynchronous) logic circuits with emphasis on solving digital problems using hardwired structures of the complexity of medium and large-scale integration. *Pre-req: BSEE- Pre-req: EE053, EE051L; Co-req: None*

EN253 - Microprocessors   **3 units**

This course provides understanding of architecture of microprocessor-based systems; registers, study of microprocessor operation, assembly language, arithmetic operations, and interfacing. *Pre-req: EN243; Co-req: None*

CoENG001L - Computer Fundamentals and Programming Lab   **1 unit**

This course tackles the basic information technology concept: the computer and computing system, algorithms and flowcharts, basic DOS commands, Number Systems, the Internet, and computer solutions to engineering problems. It also covers advanced activities in MS Word, PowerPoint and Excel applications. Concepts of basic programming using a high-level language and C programming in developing and computing source codes for the programming exercises. *Pre-req: None; Co-req: None*

ENGG183 - Basic Occupational Health and Safety   **3 units**

This course tackles key Occupational Health and Safety (OSH) concepts, principles and practices that are foundational knowledge requirements applicable in almost all industries. Specifically, it assists learners in identifying the key elements in the OSH situation both here and abroad; determine existing and potential

safety and health hazards; identify the range of control measures; discuss pertinent provisions of Philippine laws that refer to occupational safety and health; explain key principles in effectively communicating OSH; identify components of effective OSH programs and demonstrate some skills in identifying hazards and corresponding control measures at the workplace. *Pre-req: None; Co-req: None*

E. ELECTRICAL ENGINEERING PROFESSIONAL COURSES

MATH302 - Numerical Methods and Analysis   2 units
This course covers the concepts of numerical analysis and computer software tools in dealing with engineering problems. It includes techniques in finding the roots of an equation, solving systems of linear and non-linear equations, eigenvalue problems, polynomial approximation and interpolation, ordinary and partial differential equations. The Monte-Carlo method, simulation, error propagation and analysis, the methods of least squares and goodness-of-fit tests are also covered. *Pre-req: EE323; Co req: MATH301L*

MATH301L - Numerical Methods and Analysis Lab   1 unit
A laboratory component of MATH302 (Numerical Methods and Analysis). *Pre-req: MATH223; Co-req: MATH303*

EE192A - EE Laws, Codes and Professional Ethics   2 units
The course is designed to prepare electrical engineering students for professional practice. Topics include education and practice of the New Electrical Engineering Law and other laws governing the profession, Philippine Grid Code, Philippine Distribution Code, Basic Contracts and ethics in relation to the practice of the electrical engineering profession. *Pre-req: GEC073; Co-req: None*

EE321L - Electrical Standards and Practices Lab   1 unit
This course provides the different electrical practices in accordance to local and international standards. *Pre-req: EE192A; Co-req: None*

EE033A - Electrical Circuits I   3 units
The course covers nodal and mesh analysis; application of network theorems in circuit analysis; analysis of circuits with controlled sources and ideal op-amps; fundamentals of capacitors and inductors; analysis of dc-driven RL, RC, and RLC circuits; sinusoidal steady-state analysis of general RLC circuits. *Pre-req: MATH153B, PHY083, PHY081L; Co-req: EE031A-L*

EE031A-L - Electrical Circuits I Lab   1 unit
The laboratory component of EE033A (Electrical Circuits I). *Pre-req: MATH153B, PHY083, PHY081L; Co-req: EE033A*

EE033B - Electrical Circuits 2   3 units
The course deals with sinusoidal steady-state analysis in the frequency domain; AC circuit power analysis; analysis of polyphase circuits and magnetically-coupled circuits; frequency response; per unit system and symmetrical components; and two-port networks. *Pre-req: EE033A, EE031A-; Co-req: EE031B-L*

EE031B-L - Electrical Circuits 2 Lab
1 unit

The laboratory component of EE033B (Electrical Circuits II). *Pre-req: EE033A, EE031A-L, Co-req: E033B*

EE262A - Electrical Apparatus and Devices
2 units

This course provides characteristics, principle of operation, and applications of single-phase and three-phase transformers, and protective devices such as fuses and circuit breakers. It includes various types of transformers based on different criteria, types of fuses and circuit breakers, parallel operation of transformers, and standard ratings. *Pre-req: EE033B,EE031B-L; Co-req: EE261A-L*

EE261A-L - Electrical Apparatus and Devices Lab
1 unit

The laboratory component of EE262A (Electrical Apparatus and Devices) where characteristics, principle of operation, and applications of single-phase and three-phase transformers and protective devices are applied. *Pre-req: EE033B,EE031B-L; Co-req: EE262A*

EE122A - Electrical Machines 1
2 units

The course deals with the fundamentals of DC machinery; DC motors and generators. *Pre-req: EE033B,EE031B-L, EE042; Co-req: None*

EE123B - Electrical Machines 2
3 units

The course deals with the fundamentals of AC machinery; synchronous generators and motors; induction motors; single-phase and special-purpose motors. *Pre-req: EE122A; Co-req: EE121B-L*

EE121B-L - Electrical Machines 2 Lab
1 unit

The laboratory component of EE123B (Electrical Machines 2). *Pre-req: EE122A; Co-req: EE123B*

EE323 - Engineering Mathematics for EE
3 units

The study of mathematical methods for solving engineering problems such as complex number, complex variables, Cauchy-Riemann equations, Laplace transformation and Laplace transform analysis, Fourier series and Fourier transform, z transform, power series solutions of ordinary differential equations, partial differential equation, and hypergeometric equations such as Legendre and Bessel functions.
Pre-req: MATH223; Co-req: None

EE163A - Electrical Systems and Illumination Engineering Design
3 units

The course provides knowledge, understanding and skills in designing electrical wiring system for residential, commercial buildings, and industrial facilities through the specifications and standards mandated by the Philippine Electrical Code and provisions from the Local Government on electrical wiring installation. The course includes illumination design and cost estimation; energy-efficient lighting systems for residential, commercial, and industrial establishments; roadway lighting, and lighting maintenance.
Pre-req: EE123B, EE121B-L; Co-req: EE162A-L

EE162A-L - Electrical Systems and Illumination Engineering Design Lab 2 units
The laboratory component of EE163A (Electrical Systems and Illumination Engineering Design) where understanding and skills in designing wiring system are applied. *Pre-req: EE123B, EE121B-L; Co-req: EE163A*

EE093B - Power System Analysis 3 units
This course deals with the study on the basic structure of power systems, recent trends and innovations in power systems, transmission line parameters, network modeling and calculations, load flow studies, short circuit calculations and use of computer software for simulation. *Pre-req: EE321L; Co-req: EE091B-L, EE332, EE331L,EE311L*

EE091B-L - Power System Analysis Lab 1 unit
The laboratory component of EE093B (power System Analysis). *Pre-req: EE321L; Co-req: EE093B, EE332, EE331L,EE311L*

EE311L - Fundamentals of Power Plant Engineering Design Lab 1 unit
It covers topics on load graphics, types of power plants, power plant operation and protection, interconnections, economics of electric service, and arrangement of equipment for modern plants and includes the design of a power plant, its interconnection, operation, economics, and protection.
Pre-req: None; Co- req: EE093B, EE091B-L

EE332 - Distribution Systems and Substation Design 2 units
The course deals with study and design of primary and secondary distribution networks, load characteristics, voltage regulation, metering techniques and systems, and protection of distribution systems.
Pre-req: None; Co-req: EE093B, EE091B-L, EE331L

EE331L - Distribution Systems and Substation Design Lab 1 unit
The laboratory component of EE332 (Distribution Systems and Substation Design). *Pre-req: None; Co-req: EE093B, EE091B-L, EE332*

EE342 - Management of Engineering Projects 2 units
The course covers the principles of management, theory and practice, various approaches to decision making, managing production and services operations; and project management. Emphasis is also given on the managerial functions of planning, organizing, staffing, leading and controlling. *Pre-req: ENGG103; Co-req: None*

EE381L - Research Methods Lab 1 unit
This course covers the study of the methodologies used in conducting an engineering research. It includes the types and application of research, characteristics of a good research, research design, research instrument and data gathering procedures. It also deals with the study of writing a research proposal and various formats. *Pre-req: EE122A; Co-req: EE201A-L*

EE-RP-L - Research Project Lab   **1 unit**
This is a course in which individuals or small teams use the principles of electrical engineering in designing, building, and testing of special circuits or simple systems. The objectives should be the scope of the project proposal in the research method. *Pre-req: EE381L; Co-req: None*

EE112B - Instrumentation and Control   **2 units**
The course deals with the study on control and testing: electromechanical, analog and digital measuring and testing instruments; R, L and C measurements: calibration; graphic and waveform analyzing instruments; detectors for the measurements of process variables; analysis of performance characteristics of control systems; electronics, magnetic, hydraulic and mechanical control. It includes principles of controls and test measurements involving sensors, pneumatic controls, actuators, thermal detectors, thermocouples, thermistors, transducers, PID controllers. *Pre-req: EN233; Co-req: EE111B-L*

EE111B-L - Instrumentation and Control Lab   **1 unit**
The laboratory component of EE112B (Instrumentation and Control). *Pre-req: EN233; Co-req: EE112B*

EN233 - Feedback and Control Systems   **3 units**
 This course deals with the basics of control systems; terminologies and diagrams; homogeneous and transient responses of systems; systems representation such as transfer functions, state-space analysis of phase variables and techniques, nth order linear differential equations; modeling, pole-zero gain data and frequency response data; Laplace transforms; block diagrams interconnections and simplifications; signal flow graphs; conversion of block diagrams to signal flow graphs and vice versa; root locus; Bode, Nyquist and Polar plots; PID controllers; sensitivity and stability criteria; linear feedback systems; and compensation techniques *Pre-req: EE053, EE051L, EE323; Co-req: None*

EE201A-L - Seminars /Colloquia Lab   **1 unit**
The course involves the attendance and participation of EE graduating students in technical seminars/workshops related to the field of Electrical Engineering. Students are also required to attend non-technical seminars and training for the enhancement of their personality. It also involves short lectures on current trends and recent developments in the EE field. It may include educational visits to selected companies and manufacturing plants. *Pre-req: None; Co-req: EE381L*

F. TECHNICAL ELECTIVES

EE-ELEC1– EE Elective 1   3 units
EE-ELEC2– EE Elective 2   3 units
ELECTIVE TRACKS:

1. Power System Protection
2. Advanced Power System Analysis and Design
3. Advanced Electrical Systems Design
4. Entrepreneurship

5. Machine Automation and Process Control
6. Special Studies in Renewable Energy Resources
7. Substation Maintenance
8. Maintenance of power generators using latest technologies to determine stator breakdowns, partial discharge of isolated phase bus, etc.
9. Testing and Commissioning for electrical systems, compliant to NETA, IEC standards and other recognized by the industry worldwide
10. Electrical Audit Evaluation that includes power system simulations to determine the required short circuit analysis, protection coordination, load flow, arc flash, harmonics determination, and mitigation including high frequency noise present in the system in addition to low frequency harmonics
11. Electrical estimating for power system, distribution system, commercial, industrial and high-rise building designs with project components to report

G. ON-THE-JOB TRAINING

EE-PRC3 – Practicum (300hrs)   **3 units**
Industry exposure of students for them to match school acquired competencies and knowledge with the realities and problems of industry. This may include involvement in industry manpower requirements, development and research concerns, training, and applications of principles, environmental concerns, ethical and behavioral concerns, decision-making, equipment and materials management. The student shall prepare a thesis on a topic covered by his/her experiences. *Pre-req: EE163A, EE162A-L; Co-req: None*

H. INSTITUTIONAL COURSES

EE-ST006-Special Topics for EE   **6 units**
The course provides essential knowledge on mathematics, engineering science and professional subjects to prepare the students on their licensure examinations. *Pre-req: EE-Elec2; Co-req: None*

PROGRAM DESCRIPTION

The **Bachelor of Science in Computer Engineering** course at Letran Calamba aimed to provide students with the fundamental principles and practices that underpin the development and management of hardware and software systems. Computer engineering is described as "the discipline that embodies the science and technology of design, construction, implementation, and maintenance of software and hardware components of modern computing systems and computer-controlled equipment".

The study of computer engineering provides an entry point into a highly competitive sector that provides a range of digital solutions to organizations throughout the nation and the world. The CpE program's qualifications have gained accreditation Level III status by The Philippine Association of Colleges and Universities Commission on Accreditation (PACUCOA) due to the initiatives of the Colegio to provide quality education.

The program offers a wide range of module options for their elective subjects, from Big Data Analytics and Machine Learning, Software Development, Embedded Systems Design, and Networking Courses. This provides greater opportunity for the students in finding areas of interest as well as making them a more rounded graduate for the local and global workplaces. The program also offers their students the use of a computer engineering laboratory exclusively designed to give them most practical exposure to their subject matter and usage of up-to-date software. Top academic facilities, close ties with industry, hands-on experience and sophisticated technology combine to make graduates of the Computer Engineering program highly sought after in the professional arena.

Program Educational Objectives

Three to five years after graduation, the BS Computer Engineering (BSCPE) alumni shall:
1. Advance their practice in the field of computer engineering;
2. Assume at least a supervisory position in the same or related field of endeavor;
3. Manifest proper ethical principles and values founded in Filipino, Dominican and Christian orientation;
4. Contribute goodwill in the country and other nations; and
5. Pursue advance education and professional training activities to become world class professionals.

Program Outcomes and Performance Indicators

Upon completion of BS Computer Engineering (BSCPE), the graduate, who is trained in a culture of conscience and excellence with Filipino, Dominican, and Christian in orientation, must be able to:

Program Outcomes	Performance Indicators
1. Articulate and discuss the latest developments in the specific field of practice and demonstrate a service orientation in one's profession	• Engage in continual learning and service in one's specialization
2. Preserve and promote Filipino historical and cultural heritage (based on RA No. 7722)	• Demonstrate responsible Filipino citizenship in local, national or international communities

3. Participate in various types of employment, development activities, and public discourses, particularly in response to the needs of the communities one serves	• Plan and take action for the welfare of the community • Continually engage oneself in development projects and activities that address the community needs
4. Manifest strong commitment and conviction to the Christian and Dominican teachings and philosophy in thoughts, words, and deeds	• Observe the Dominican values of study, prayer, community, and service • Uphold ecological consciousness and engage in environmental stewardship • Participate actively in the community's spiritual and social advocacy or extension program
5. Manifest competencies supporting national, regional and local development plans	• Use appropriate technique/s that can be applied in developing a project for national, regional, or local consumption. • Perform preliminary and detailed design that satisfies all the requirements, maximizing the resources available. • Develop technology-based project for national, regional, or local consumption.
6. Apply knowledge of mathematics and science to solve complex computer engineering problems	• Analyze the parameters from the given data that are needed in solving the problem • Formulate the needed equation in solving the problem

	• Develop the procedure in solving the problem. • Apply the appropriate mathematical tools in solving the problem.
7. Develop and conduct experiments, as well as to analyze and interpret data	• Define objectives of the experiment • Collect sufficient and appropriate data to support the objectives of the experiment • Analyze data using appropriate methods • Relate data analysis to the objectives of the experiment • Draw out appropriate or reasonable conclusions
8. Design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability, in accordance with standards	• Gather information on relevant fundamentals, theory / concepts, similar existing systems (demonstrate technical competence). • Define the problem and identify the design constraints, which may include economic, environmental, political, ethical, and health and safety constraints • Define functional requirements for the design (specific required actions necessary for the design to be achieved). • Perform preliminary and detailed design that satisfies all the requirements, maximizing the resources available.

	- Systematically present the designed system, component, or process
9. Work/Function effectively and independently in multi-disciplinary and multi-cultural teams	- Perform independently and cooperatively to accomplish worthwhile goals - Fulfill team role's duties as a member in any kind of group project or activity - Fulfill team role's duties as a member leader in any kind of group project or activity - Share in a team-based work
10. Identify, formulate, and solve complex computer engineering problem	- Evaluate and interpret results - Identify problem/s in a community that requires expertise in computer engineering based on needs assessment - Formulate problem statement, objectives, scope, and limitations, and identify resources required to solve the problems - Provide technical solution/s to the problem that is acceptable to the stakeholders - Demonstrate the use of appropriate modern tools to solve the problems

11. Act in recognition of professional, social, and ethical responsibility	• Apply professional standards (use of handbooks, codes, standards) in obtaining, reporting, analyzing data or in crafting design. • Demonstrate high academic standards, personal responsibilities, and exercise good judgment and discretion. • Immerse in an actual working environment in industry • Evaluate the ethical and societal implications of a design solution to problem in computer engineering
12. Effectively communicate orally and in writing using English, Filipino, mother tongue language, and an appropriate Foreign Language required by the industry	• Express oneself clearly in verbal or written forms the updates in one's career or vocation • Organize presentation/reports in well-structured logical sequence, making it easy for audience/reader to follow clearly the content. • Convey positive Filipino values in one's decisions and actions • Present a proposed solution in class or in a public forum • Defend satisfactorily his/her thesis/design project from a panel of experts
13. Identify and analyze the impact of computer engineering solutions in a global, economic, environmental, and societal context	• Investigate a given engineering problem and propose related solutions • Analyze the short and long term impact

	(political, economic, environmental, health and safety, cultural) of proposed solutions on society (individual, local, regional or global context) • Choose the best engineering solution that will have the best impact on the society. • Criticize/ justify the effects of engineering solutions to a given problem.
14. Recognize the need for, and engage in life-long learning	• Aware of the need for life-long learning • Engaged in life-long learning activities
15. Know, articulate and discuss contemporary issues and development in the specific field of practice	• Identify and relate in a variety of contemporary issues or topic • Discuss technical issues relevant to field of practices • Design the appropriate technique that can be applied in assessing the interrelationships of the cited contemporary issues
16. Apply techniques, skills, and modern engineering tools necessary for computer engineering practice	• Utilize problem solving and design techniques/methods in their discipline. • Solve problems using current software used in the discipline. • Utilize the available hardware/equipment used in the discipline

17. Apply knowledge of engineering and management principles as a member and leader of a team, and to manage projects in a multi-disciplinary environment	• Understand the fundamentals of team dynamics and leadership • Function as an effective member or leader of diverse engineering teams and earn the trust and confidence of colleagues through competent and timely completion of tasks • Recognize the value of alternative and various viewpoints, and to know the importance of professional networking from other team members • Confidently pursue and discern expert assistance and professional advice from other members • Take initiative and fulfill the leadership role, while respecting the agreed roles of others
18. Infer at least one specialized field of computer engineering practice	• Identify and relate in a variety of specialized fields of Computer Engineering practice. • Discuss technical issues relevant to fields of practice. • Design the appropriate technique that can be applied in assessing the inter-relationships of the cited specialized fields of Computer Engineering practice.

I. General Education Courses

A. Core Courses   24

GEC003	Understanding the Self	3
GEC013	Science, Technology, and Society	3
GEC023	Mga Babasahin Hinggil sa Kasaysayan ng Pilipinas	3
GEC033	Mathematics in the Modern World	3
GEC043	The Contemporary World	3
GEC053	Art Appreciation	3
GEC063	Purposive Communication	3
GEC073	Ethics	3

B. CHED Mandated Courses   26

a. Rizal Course

RZL023	Buhay at Mga Akda ni Rizal	3

b. Physical Education Courses

PATHFIT1002	Movement Competency Training	2
PATHFIT2022	Exercise Based Fitness Activities	2
PATHFIT3032	Individual/Dual Sports	2
PATHFIT4042	Contemporary Dance	2

c. National Service Training Program

NSTP1-18	National Service Training Program 1	3
NSTP2-18	National Service Training Program 2	3

d. GENED Elective Courses

GECELEC1	Living in the IT Era	3
GECELEC2	The Entrepreneurial Mind	3
GECELEC3	Philippine Popular Culture	3

C. Institutional Mandated Courses   18

a. Religious Education Courses

RELED053	The Catholic Christian Faith	3
RELED063	Contemporary Issues in Christian Marriage	3
RELED073	Contemporary Issues About Church and Human Society with Immersion	3
RELED083	Christian Ethics	3

b. Letran Quality Enrichment Courses

LQEC23-013	Letran Quality Enhancement Course I (Letran Calamba Identity and 21st Century Learning	3
LQEC23-023	Letran Quality Enhancement Course II (21st Century Literacy Skills & Life Skills and	3

II. TECHNICAL COURSES

A. Mathematics   18

MATH153A	Calculus 1	3
MATH153B	Calculus 2	3
MATH223	Differential Equations	3
MATH323	Engineering Data Analysis	3
MATH343A	Engineering Mathematics 1	3
MATH343B	Engineering Mathematics 2	3

B. Natural/Physical Sciences   8

CHM083	Chemistry for Engineers	3

CHM081L	Chemistry for Engineers Lab	1
PHY083	Physics for Engineers	3
PHY081L	Physics for Engineers Lab	1

C. Basic Engineering Sciences   7
Drw051L	Computer Aided Drafting	1
ENGG103	Engineering Economics	3
ENGG193	Technopreneurship	3

D. Allied Courses   8
CpE033	Fundamentals of Electrical Circuits	3
CpE031L	Fundamentals of Electrical Circuits Lab	1
CpE053	Fundamentals of Electronic Circuits	3
CpE051L	Fundamentals of Electronic Circuits Lab	1

E. Professional Courses   76
CpE001	Computer Engineering as a Discipline	1
CpE012L	Programming Logic and Design Lab	2
CpE042L	Object Oriented Programming Lab	2
CpE072L	Data Structures and Algorithms Lab	2
CpE123C	Software Design	3
CpE121C-L	Software Design Lab	1
CpE153	Logic Circuits and Design	3
CpE151L	Logic Circuits and Design Lab	1
CpE161B-L	Computer Engineering Drafting and Design Lab	1
CpE183A	Computer Architecture and Organization	3
CpE181A-L	Computer Architecture and Organization Lab	1
CpE203B	Operating Systems	3
CpE213B	Data and Digital Communications	3
CpE253B	Digital Signal Processing	3
CpE251B-L	Digital Signal Processing Lab	1
CpE263B	Computer Networks and Security	3
CpE261B-L	Computer Networks and Security Lab	1
CpE271B-L	Seminars and Fieldtrips Lab	1
CpE321L	Introduction to HDL Lab	1
CpE333	Embedded Systems	3
CpE331L	Embedded Systems Lab	1
CpE342	CpE Laws and Professional Practice	2
CpE353	Emerging Technologies in CpE	3
CpE-PD1-L	CpE Practice and Design 1	1
CpE-PD2-L	CpE Practice and Design 2	2
CpE-PRC5	Practicum (500 hrs)	5
ENGG183	Basic Occupational Safety and Health	3
EN233	Feedback and Control Systems	3
EN253	Microprocessors	3
EN251L	Microprocessors Lab	1
EN263	Methods of Research	3
ENGG223	Fundamentals of Mixed Signals and Sensors	3
MATH283	Discrete Mathematics	3

| MATH303 | Numerical Methods | 3 |
| MATH301L-23 | Numerical Methods Lab | 1 |

F. Technical Electives   **9**

CpElec-1	Cognate / Elective Course 1	3
CpElec-2	Cognate / Elective Course 2	3
CpElec-3	Cognate / Elective Course 3	3

TOTAL UNITS   **194**

BACHELOR OF SCIENCE IN COMPUTER ENGINEERING
Curriculum Year 2023-2024

COURSE CODE	COURSE TITLE	Lec Units/Hrs	Lab Units	Lab Hrs	TOTAL	PRE-REQUISITES/ CO-REQUISITES
FIRST YEAR, First Semester						
CHM081L	Chemistry for Engineers Lab		1	3	1	co-req CHM083
CHM083	Chemistry for Engineers	3			3	co-req CHM081L
CpE001	Computer Engineering as a Discipline	1			1	
CpE012L	Programming Logic and Design		2	6	2	
GEC013	Science, Technology, and Society	3			3	
LQEC23-013	Letran Quality Enhancement Course I (Letran Calamba Identity and 21st Century Learning Skills)	3			3	
MATH153A	Calculus 1	3			3	
MATH343A	Engineering Mathematics 1	3			3	
NSTP1-18	National Service Training Program 1	3			3	
PATHFIT1002	Movement Competency Training	2			2	
	Total	**21**	**3**	**9**	**24**	
FIRST YEAR, Second Semester						
CpE042L	Object Oriented Programming Lab		2	6	2	CpE012L
GEC003	Understanding the Self	3			3	
GEC033	Mathematics in the Modern World	3			3	
MATH153B	Calculus 2	3			3	MATH153A, co-req PHY083, PHY081L
MATH323	Engineering Data Analysis	3			3	MATH153A
MATH343B	Engineering Mathematics 2	3			3	MATH343A
NSTP2-18	National Service Training Program 2	3			3	NSTP1-18
PATHFIT2022	Exercise-Based Fitness	2			2	PATHFIT1002
PHY081L	Physics for Engineers Lab		1	3	1	MATH153A, co-req MATH153B, PHY083
PHY083	Physics for Engineers	3			3	MATH153A, co-req MATH153B, PHY081L
RELED053	The Catholic Christian Faith	3			3	
	Total	**26**	**3**	**9**	**29**	
SECOND YEAR, First Semester						
CpE031L	Fundamentals of Electrical Circuits Lab		1	3	1	PHY083, PHY081L, co-req CpE033
CpE033	Fundamentals of Electrical Circuits	3			3	PHY083, PHY081L, co-req CpE031L
CpE072L	Data Structures and Algorithms		2	6	2	CpE042L
DRW051L	Computer Aided Drafting		1	3	1	
ENGG103	Engineering Economics	3			3	MATH153A
GEC073	Ethics	3			3	
LQEC23-023	Letran Quality Enrichment Course II (21st Century Literacy Skills & Life Skills and Sustainability)	3			3	LQEC23-013
MATH223	Differential Equations	3			3	MATH153B
MATH283	Discrete Mathematics	3			3	MATH153A
PATHFIT3032	Individual /Dual Sports	2			2	PATHFIT1002, PATHFIT2022
RELED063	Contemporary Issues in Christian Marriage	3			3	RELED053
	Total	**23**	**4**	**12**	**27**	
SECOND YEAR, Second Semester						
CpE051L	Fundamentals of Electronic Circuits Lab		1	3	1	CpE033, CpE031L, co-req CpE053
CpE053	Fundamentals of Electronic Circuits	3			3	CpE033, CpE031L, co-req CpE051L
CpE121C-L	Software Design Lab		1	3	1	CpE072L, co-req CpE123C
CpE123C	Software Design	3			3	CpE072L, co-req CpE121C-L
GEC023	Mga Babasahin Hinggil sa Kasaysayan ng Pilipinas	3			3	

Code	Course					Prerequisites
GEC043	The Contemporary World	3			3	
MATH301L-23	Numerical Methods Lab		1	3	1	MATH223 co-req MATH303
MATH303	Numerical Methods	3			3	MATH223, co-req MATH301L-23
PATHFIT4042	Contemporary Dance	2			2	PATHFIT1002, PATHFIT2022
RELED083	Christian Ethics	3			3	RELED053
RZL023	Buhay at Mga Akda ni Rizal	3			3	
	Total	**23**	**3**	**9**	**26**	

THIRD YEAR, First Semester

Code	Course					Prerequisites
CpE151L	Logic Circuits and Design Lab		1	3	1	CpE053, CpE051L, co-req CpE153
CpE153	Logic Circuits and Design	3			3	CpE053, CpE051L, co-req CpE151L
CpE161B-L	Computer Engineering Drafting and Design Lab		1	3	1	CpE053, CpE051L
CpE203B	Operating Systems	3			3	CpE072L
CpE213B	Data and Digital Communications	3			3	CpE053, CpE051L
CpE321L	Introduction to HDL Lab		1	3	1	CpE012L, CpE053, CpE051L
EN233	Feedback and Control Systems	3			3	CpE033, CpE031L, MATH303, MATH301L-23
ENGG223	Fundamentals of Mixed Signals and Sensors	3			3	CpE053, CpE051L
GEC063	Purposive Communication	3			3	
GECELEC1	Living in the IT Era	3			3	
RELED073	Contemporary Isues About Church and Human Society with Immersion	3			3	RELED053
	Total	**24**	**3**	**9**	**27**	

THIRD YEAR, Second Semester

Code	Course					Prerequisites
CpE261B-L	Computer Networks and Security Lab		1	3	1	CpE213B, co-req CpE263B
CpE263B	Computer Networks and Security	3			3	CpE213B, co-req CpE261B-L
CpE331L	Embedded Systems Lab		1	3	1	EN233, co req CpE333
CpE333	Embedded Systems	3			3	EN233, co req CpE331L
CpE342	CpE Laws and Professional Practice	2			2	
CpElec-1	Cognate / Elective Course 1	3			3	CpE123C, CpE121C-L
EN251L	Microprocessors Lab		1	3	1	CpE153,CpE151L, CpE321L, co-req EN253, EN263
EN253	Microprocessors	3			3	CpE153,CpE151L, CpE321L, co-req EN251L, EN263
EN263	Methods of Research	3			3	CpE153,CpE151L, co-req EN253, EN251L
ENGG183	Basic Occupational Health and Safety	3			3	
GECELEC2	The Entrepreneurial Mind	3			3	
	Total	**23**	**3**	**9**	**26**	

THIRD YEAR, Inter-Semester

Code	Course					Prerequisites
CpElec-2	Cognate / Elective Course 2	3			3	CpElec-1
CpE-PD1-L	CpE Practice and Design 1		1	3	1	EN263
	Total	**3**	**1**	**3**	**4**	

FOURTH YEAR, First Semester

Code	Course					Prerequisites
CpE181A-L	Computer Architecture and Organization Lab		1	3	1	EN253, EN251L, co-req CpE183A
CpE183A	Computer Architecture and Organization	3			3	EN253, EN251L, co-req CpE181A-L
CpE251B-L	Digital Signal Processing Lab		1	3	1	EN233, co-req CpE253B
CpE253B	Digital Signal Processing	3			3	EN233, co-req CpE251B-L
CpE271B-L	Seminars and Fieldtrips Lab		1	3	1	CpE342
CpE353	Emerging Technologies in CpE	3			3	CpE342

	CpElec-3	Cognate / Elective Course 3		3		3	CpElec-2
	CpE-PD2-L	CpE Practice and Design 2			2	6	2	CpE-PD1-L
	ENGG193	Technopreneurship		3		3	
	GEC053	Art Appreciation		3		3	
	GECELEC3	Philippine Popular Culture		3		3	
			Total	21	5	15	26

FOURTH YEAR, Second Semester

	CpE-PRC5	Practicum (500 hrs)*		5			5	CpE253B, CpE251B-L, CpE-PD2-L
			Total	5	0	0	5

	GRAND TOTAL		169	25	75	194

Practicum - No simultaneous enrollment is allowed.

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COURSE DESCRIPTION

I. GENERAL EDUCATION COURSES

A. CORE COURSES

GEC003 - Understanding the Self   **3 units**
The course discusses the nature of identity, its factors and forces that affect the development and maintenance of personal identity. It is intended to facilitate the exploration of the issues and concerns regarding self and identity to arrive at a better understanding of one's self. It strives to meet this goal by stressing the integration of the personal with the academic — contextualizing matters discussed in the classroom and in the everyday experiences of students — making for better learning, generating a new appreciation for the learning process, and developing a more critical and reflective attitude while enabling them to manage and improve their selves to attain a better quality of life.

This also includes mandatory topics on Family Planning and Population Education. *Pre-req: None; Co-req: None*

GEC013 - Science, Technology, and Society   **3 units**
The course deals with interactions between science and technology and social cultural, political, and economic contexts, which shape and are shaped by them.
The interdisciplinary course engages students to confront the realities brought about by science and technology in society. Such realities pervade the personal, the public, and the global aspects of our living and are integral to human development. Scientific knowledge and technological development happen in the context of society with all its socio-political, cultural, economic, and philosophical underpinnings at play. This course seeks to instill reflective knowledge in the students that they are able to live the good life and display ethical decision making in the face of scientific and technological advancement.

This also includes discussion of climate change and environmental awareness as well as the implementation of the different environmental protection laws. *Pre-req: None; Co-req: None*

GEC023 - Mga Babasahin Hinggil sa Kasaysayan ng Pilipinas   **3 units**
Ang kursong ito ay tumatalakay sa mga piling primaryang sanggunian ukol sa iba't ibang yugto ng kasaysayan ng Pilipinas, pagsusuri at interpretasyon. Isasama din ang pagtalakay sa konstitusyon ng Pilipinas simula sa taong 1899 hanggang sa taong 1987. Ganun din ang pagtalakay sa repormang agraryo. Gayundin ang pagtalakay sa pagbubuwis bilang instrumento ng pamahalaan. Ito ay may kaugnayan sa tibay ng pagbubuwis bilang isa sa tatlong kapangyarihan ng pamahalaan na nakasaad sa Saligang Batas taong 1987. *Pre-req: None; Co-req: None*

GEC033 - Mathematics in the Modern World   **3 units**
The course discusses the nature of Mathematics, appreciation of its practical, intellectual, and aesthetic dimensions, and application of mathematical tools in daily life. *Pre-req: None; Co-req: None*

GEC043 - The Contemporary World
3 units

The course discusses globalization and its impact on individuals, communities and nations, challenges and responses. It introduces students to the contemporary world by examining the multifaceted phenomenon of globalization. Using the various disciplines of the social sciences, it examines the economic, social, political, technological, and other transformations that have created an increasing awareness of the interconnectedness of people and places around the globe. It provides an overview of the various debates in global governance, development, and sustainability. Beyond exposing the student to the world outside the Philippines, it seeks to inculcate a sense of global citizenship and global ethical responsibility.

This also includes mandatory topics on population education in the context of population and demography. *Pre-req: None; Co-req: None*

GEC053 - Art Appreciation
3 units

The course discusses the nature, function and appreciation of the arts in contemporary society. It intends to develop students' ability to appreciate, analyze, and critique works of art. Through interdisciplinary and multimodal approaches, this course equips students with a broad knowledge of the practical, historical, philosophical, and social relevance of the arts. This will hone their ability to articulate their understanding of the arts. It will also develop students' competency in researching and curating arts as well as conceptualizing, mounting, and evaluating art productions. The course aims to develop students' genuine appreciation for Philippine arts by providing them opportunities to explore the diversity and richness and their rootedness in Filipino culture. *Pre-req: None; Co-req: None*

GEC063 - Purposive Communication
3 units

The course discusses writing, speaking and presenting to different audiences and for various purposes. It develops students' communicative competence and enhances their cultural and intercultural awareness through multimodal tasks that provide them opportunities for communicating effectively and appropriately to a multicultural audience in a local or global context. It equips students with tools for critical evaluation of a variety of texts and focuses on the power of language and the impact of images to emphasize the importance of conveying messages responsibly. *Pre-req: None; Co-req: None*

GEC073 – Ethics
3 units

This course covers the context and tenets of ethical behavior in modern society including how individuals and communities interact with the environment and other common resources. It helps one to enhance their grasp of ethics and moral reasoning through the study of numerous theoretical viewpoints and moral experiences that make up so much of the core of daily life. By the end of the course, students should be able to articulate why and how people are seen as moral beings existing in a moral universe with a responsibility to protect themselves, one another, and the environment for everyone. *Pre-req: None; Co-req: None*

B. GENERAL EDUCATION ELECTIVE COURSES

GECELEC1 - Living in the IT Era   **3 units**
This general education elective course discusses how information technology shaped that way of life in the modern era. It discusses the science, culture and ethics information technology as well as how it affects contemporary life and interpersonal interactions and the way it may be used to promote one's social, professional, and personal goals. *Pre-req: None; Co-req: None*

GECELEC2 - The Entrepreneurial Mind   **3 units**
This general education elective course focuses on the nature and fundamentals of entrepreneurship as well as its societal responsibilities and repercussions. It is designed to assist students comprehend the business environment and encourage individuals adopt and innovative mindset. *Pre-req: None; Co-req: None*

GECELEC3 - Philippine Popular Culture   **3 units**
This general education elective course focuses on the emerging potential and expectation of mass audiences, markets and mass media, as well as their social, economic, and political settings, in the field of art, music, and literature. By the completion of the course, students should be able to demonstrate their appreciation of traditional and modern cultural expressions of as well as identify, analyze and develop trends in Philippine culture that have been inspired by various internal and external influences. *Pre-req: None; Co-req: None*

C. CHED MANDATORY COURSES

RZL023 - Buhay at Mga Akda ni Rizal   **3 units**
Ito'y isang pag-aaral sa buhay at gawa ni Gat. Jose Rizal at ang kaugnayan at kahalagahan sa nilalaman ng pangkasaysayang pagsulong ng lipunang Pilipino. Gamit ang istratehiyang 'Dambana" kung saan ang mag-aaral ay maglalaan ng panahon sa Bahay-Rizal sa Calamba, ang mag-aaral ay magiging kabahagi ng Rizal Shrine staff sa edukasyong pangkasaysayan ng mga panauhin sa Bahay-Rizal. *Pre-req: None; Co-req: None*

D. INSTITUTIONAL MANDATED COURSES

LQEC23-013 - Letran Quality Enrichment Course I (Letran Calamba Identity and 21st Century Learning Skills)   **3 units**
LQEC 1 is an enhancement course that is designed to introduce the identity of Colegio de San Juan de Letran Calamba including its history, Dominican spirituality, mission, vision, quality objectives, policies , processes and services. It also introduces the "Four Cs" of 21st Century Learning: Critical Thinking, Creativity, Collaboration and Communication that aims to enhance students' knowledge and awareness of the essential communication concepts and establish deep comprehension of the processes in a creative manner.
Furthermore, it helps the learners to formulate logical and well-thought-out reasoned judgments and promote active engagement with others to achieve a common goal. Pre-req: None; Co-req: None

LQEC23-023 - Letran Quality Enrichment Course II (21st Century Literacy Skills & Life Skills and Sustainability) 3 units
LQEC 2 is an enhancement course that is designed to provide basic understanding about leadership, flexibility, initiative, social skills and productivity. It also introduces digital literacy which focuses on fundamental understanding of media, technology, and information as tools for communication and the advancement of people and communities.
Moreover, the course also introduces the concept of Environment, Social, and Governance (ESG) which determines an organization's commitment to sustainability. All of these are necessary to help the learners become competitively employable in the future of work. *Pre-req: LQEC23-013; Co-req: None*

RELED053 - The Catholic Christian Faith 3 units
This course deals with the basic Catholic Christian Doctrine. It highlights the 12 articles of faith in the Apostles Creed, as well as the Sacred Scripture. Thus it guides the students to a life of truth, fidelity and worship to God. *Pre-req: None; Co-req: None*

RELED063 - Contemporary Issues in Christian Marriage 3 units
Contemporary Issues in Christian Marriage is a three unit academic subject. The emphasis of the course is on Marriage and Family presented as a vocation and a sacrament. The study prepares the students for the reception of the sacrament and achievement of a better outlook on the realities and complexities of the married state and family life. *Pre-req: RELED053; Co-req: None*

RELED073 - Contemporary Issues About Church and Human Society with Immersion 3 units
Contemporary Issues About Church and Human Society with Immersion is a three unit academic subject. This course studies the seven themes of the social teachings of the Catholic Church. It also tackles contemporary social issues which hamper the development of our country. An integral part of the course is Makipamuhay, a learning strategy that allows students to experience direct contact with the oppressed in society specifically the rural poor and leads them to develop personal as well as communal witnessing to authentic Christian faith. *Pre-req: RELED053; Co-req: None*

RELED083 - Christian Ethics 3 units
This course presents the foundations and fundamentals of Christian Ethics and their application to issues and concerns related to the Ten Commandments. *Pre-req: RELED053; Co-req: None*

E. PHYSICAL EDUCATION COURSES

PATHFIT1002 - Movement Competency Training 2 units
This course provides training in different movement and core engagement in conjunction with principles of healthy and physical active life. Students will be able to adopt and transfer the movement competency in different contexts. *Pre-req: None; Co-req: None*

PATHFIT2022 - Exercise-Based Fitness · 2 units

This course provides experiences in core stability, strength, and mobility training. It includes goal setting exercise progression and regression and periodic assessment for the development of various fitness component.
Pre-req: PATHFIT1002; Co-req: None

PATHFIT3032 - Individual/Dual Sports · 2 units

This course puts emphasis on gaining basic knowledge of individual/dual sports, fitness and lifetime activities. It also includes different kinds of individual/dual sports. Students will learn the skills and game strategies for each sport as well as their historical background and terminology. Activities promote participation in physical activity to achieve good health and wellness. *Pre-req: PATHFIT1002, PATHFIT2022; Co-req: None*

PATHFIT4042 - Contemporary Dance · 2 units

This course provides the students the foundations of contemporary dance technique and execution. It focuses on various movement concepts at each level, particularly designed solos, and the integration of organized improvisation to provide students, the opportunity to explore and come up with their own movement language. It encourages creativity by fusing elements of jazz, modern dance, lyrical dance, classical ballet, and other disciplines. *Pre-req: PATHFIT1002, PATHFIT2022; Co-req: None*

F. NATIONAL SERVICE TRAINING PROGRAM

NSTP1-18 - National Service Training Program 1 · 3 units

The National Service Training Program 1 is a curricular offering consisting of lectures and trainings on citizenship, values education, environment and drug education, disaster management, transformational leadership, dimensions of development and literacy and numeracy skills aimed to empower the youth as potential community leaders toward national development. *Pre-req: None; Co-req: None*

NSTP2-18 - National Service Training Program 2 · 3 units

The National Service Training Program 2 is a sequel to NSTP1. This course is designed to equip the students with the fundamentals of project identifications, planning implementation and evaluation which include but is not limited to lecture and training on social mobilization, community development, and community service. The students are required to undergo the process of community immersion in pursuit of applying the concepts learned in contributing to the general welfare of in the Colegio's partner communities. *Pre-req: NSTP1-18; Co-req: None*

II. TECHNICAL COURSES

A. MATHEMATICS

MATH153A - Calculus 1   **3 units**
The course covers the basic concepts of calculus such as limits, continuity and differentiability of functions; differentiation of algebraic and transcendental functions involving one or more variables; applications of differential calculus to problems on optimization, rates of change, related rates, tangents and normals, and approximations; partial differentiation and transcendental curve tracing. *Pre-req: None; Co-req: None*

MATH153B - Calculus 2   **3 units**
The course covers the concept of integration and its application to physical problems such as evaluation of areas, volumes of revolution, force, and work; fundamental formulas and various techniques of integration applied to both single variable and multi-variable functions; tracing of functions of two variables. It includes anti-derivatives, integration methods, definite integrals, multiple integrals, infinite series, and their applications. *Pre-req: MATH153A; Co-req: PHY083, PHY081L*

MATH223 - Differential Equations   **3 units**
It covers first order differential equations, nth order linear differential equations and systems of first order linear differential equations. It also introduces the concept of Laplace Transforms in solving differential equations. The students are expected to be able to recognize different kinds of differential equations, determine the existence and uniqueness of solution, select the appropriate methods of solution and interpret the obtained solution. Students are also expected to relate differential equations to various practical engineering and scientific problems as well as employ computer technology in solving and verifying solutions. *Pre-req: MATH155B; Co-req: None*

MATH323 - Engineering Data Analysis   **3 units**
This course introduces different methods of data collection and the suitability of using a particular method for a given situation. It includes a coverage and discussion of the relationship of probability to statistics, probability distributions of random variables and their uses, linear functions of random variables within the context of their application to data analysis and inference, estimation techniques for unknown parameters, and hypothesis testing used in making inferences from sample to population, inference for regression parameters and build models for estimating means and predicting future values of key variables under study. Statistically based experimental design techniques and analysis of outcomes of experiments are discussed with the aid of statistical software. *Pre-req: MATH153A; Co-req: None*

MATH343A - Engineering Mathematics 1   **3 units**
The course aims to provide a series of lectures to improve the students' knowledge and skills in College Algebra and Plane Trigonometry. *Pre-req: None; Co-req: None*

MATH343B - Engineering Mathematics 2   3 units

The course aims to provide a series of lectures to improve the students' knowledge and skills in Analytic Geometry and Solid Mensuration. *Pre-req: MATH343A; Co-req: None*

B. NATURAL/ PHYSICAL SCIENCES

CHM083/ CHM081L- Chemistry for Engineers/ Chemistry for Engineers Lab   3/1 units

Basic concepts of matter and its classification; mass relationships in chemical reactions; properties of gases, liquids, and solids; concepts of thermochemistry; quantum theory and electronic behavior; periodic relationship of elements in the periodic table; intramolecular forces; and solutions. *Lecture - Pre-req: None; Co-req: CHM081L; Laboratory - Pre-req: None Co-req: CHM083*

PHY083 / PHY081L - Physics for Engineers / Physics for Engineers Lab   3/1 units

Lecture: This course covers vectors; kinematics; dynamics; work, energy, and power; impulse and momentum; rotation; dynamics of rotation; elasticity; and oscillation. Fluids; thermal expansion, thermal stress; heat transfer; calorimetry; waves; electrostatics; electricity; magnetism; optics; image formation by plane and curved mirrors; and image formation by thin lenses.
Laboratory: A fundamental laboratory course designed to provide opportunity to observe and apply the principles and theories taught in the physics. *Lecture - Pre-req: MATH153A; Co-req: MATH153B, PHY081L; Laboratory - Pre-req: MATH153A; Co-req: MATH153B, PHY083*

C. BASIC ENGINEERING SCIENCES

DRW051L - Computer-Aided Drafting   1 unit

The course deals with the concepts of computer-aided drafting (CAD); introduction to the CAD environment; terminologies; and the general operating procedures and techniques in entering and executing basic CAD commands. *Pre-req: None Co-req: None*

ENGG013 - Engineering Mechanics   3 units

This course deals with force, moment, and motion concepts. Newton's Laws of Motion. Analysis of particles and rigid bodies in static and dynamic equilibrium using vector mechanics and energy and momentum methods. Geometric properties of lines, areas, and volumes. *Pre-req: PHY083, PHY081L: Co-req: None*

ENGG103 - Engineering Economics   3 units

This course is an introduction to the concepts of the time value of money and equivalence; basic economy study methods; decisions under certainty; decisions recognizing risk; and decisions admitting uncertainty. *Pre-req: MATH153A: None; Co-req: None*

ENGG193 - Technopreneurship   3 units

This is a course on entrepreneurship with emphasis on the technology industry. The course introduces specific issues and characteristics found in the technology industry like history of technology, technology organization, marketing technology, financing technology ventures, governmental and legal factors like patents and copyright and technology strategies. The course also covers the value of professional and life skills in entrepreneurial thought, investment decisions, and actions that students can utilize in starting technology companies or executing R&D projects in companies. *Pre-req: None ; Co-req: None*

D. ALLIED COURSES

CpE033 - Fundamentals of Electrical Circuits   **3 units**
This course introduces the fundamental concepts, circuit laws, theorems and techniques used in electrical circuit analysis and transient analysis, as well as its application. The course covers circuit topologies and DC excitations, transient response, AC response, and polyphase circuits. The use of computer software for circuit simulation and design are emphasized to expose students to computer-based tools.
Pre-req: Phy083, Phy081L; Co-req: CpE031L

CpE031L - Fundamentals of Electrical Circuits Lab   **1 unit**
This course allows the students to verify the laws and theorems discussed in CpE0333 (Fundamentals of Electrical Circuits) through simulation, experimentation and project construction. The course topics include experimental determination of the characteristics of the different circuit configurations (series, parallel, series/parallel, delta, and wye), electrical power, Ohm's Law, Kirchhoff's Voltage and Current Laws, Superposition Theorem, Thevenin's equivalent circuit, and maximum power transfer. The use of computer software for circuit simulation and design are used as basis in verifying experimental results and to expose students to computer-based tools. *Pre-req: Phy083, Phy081L; Co-req: CpE033*

CpE053 - Fundamentals of Electronic Circuits   **3 units**
This course discusses the construction, operation and characteristics of basic electronic devices such as junction diodes, bipolar junction transistors, Field Effect Transistors and MOS Field Effect Transistors and oscillators. *Pre-req: CpE033, CpE031L; Co-req: CpE051L*

CpE051L - Fundamentals of Electronic Circuits Lab   **1 unit**
This course is the laboratory component of the course CpE053 (Fundamentals of Electronic Circuits) that allows students to verify theoretical concepts pertaining to the operation of electronic devices such as the PN junction diodes, BJT and FET and their subsequent applications to electronics circuits involving rectification, amplification and switching applications. The use of laboratory equipment and apparatus to verify the characteristics of diodes and transistor devices, and their operations in circuits such as rectifiers, voltage regulators, amplifiers, oscillators and switches are emphasized. Such equipment includes but not limited to the curve tracer, the oscilloscope, signal generator and multi-meters. *Pre-req: CpE033, CpE031L; Co-req: CpE053*

E. COMPUTER ENGINEERING PROFESSIONAL COURSES

CpE001 - Computer Engineering as a Discipline   **1 unit**
This course discusses the curriculum for Computer Engineering as well as how to prepare students for success through engineering design process, ethical decision-making, teamwork, and communicating to diverse audiences. *Pre-req: None; Co-req: None*

MATH283 - Discrete Mathematics   **3 units**
This course deals with logic, sets, proofs, growth of functions, theory of numbers, counting techniques, trees and graph theory. BSCPE - *Pre-req: MATH153A; Co-req: None*

MATH303 - Numerical Methods   3 units
This course covers the concepts of numerical analysis and computer software tools in dealing with engineering problems. It includes techniques in finding the rots of an equation, solving systems of linear and non-linear equations, eigenvalue problems, polynomial approximation and interpolation, ordinary and partial differential equations. The Monte-Carlo method, simulation, error propagation and analysis, the methods of least squares and goodness-of-fit tests are also discussed. *Pre-req: MATH223; Co-req: MATH301L-23*

MATH301L-23 - Numerical Methods and Analysis Lab   1 unit
A laboratory component of MATH302 (Numerical Methods and Analysis). *Pre-req: MATH223; Co-req: MATH303*

ENGG223 - Fundamentals of Mixed Signals and Sensors   3 units
This course covers operational amplifiers, signal converters, power switching devices and the construction and operation of sensors and transducers for converting physical parameters into electrical signals and vice-versa. The course focuses on the application of these devices in developing signal conversion circuits that allows measurement, processing and control of physical parameters by digital processing systems such as a finite state machine or a digital computer. Topics on actuators are also included. *Pre-req: CpE053, CpE051L; Co-req: None*

CpE012L - Programming Logic and Design   2 units
This is an introductory course in computer programming logic. The student will learn algorithms applicable to all programming languages, including: identifiers, data types, arrays, control structures, modular programming, generating reports, and computer memory concepts. The student will learn to use charts commonly used in business and information processing. Program logic will be developed using flowcharts and pseudo code. Programs will be written using any programming language. *Pre-req: None; Co-req: None*

CpE042L - Object Oriented Programming   2 units
Introduces the fundamental concepts of programming from an object oriented perspective. Topics are drawn from classes and objects, abstraction, encapsulation, data types, calling methods and passing parameters, decisions, loops, arrays and collections, documentation, testing and debugging, exceptions, design issues, inheritance, and polymorphic variables and methods. The course emphasizes modern software engineering and design principles. *Pre-req: CpE012L; Co-req: None*

CpE072L - Data Structures and Algorithms   2 units
Solving computational problems that involve manipulating collections of data, study a core set of data abstractions, data structures, and algorithms that provide a foundation for writing efficient programs. *Pre-req: CpE042L; Co-req: None*

CpE123C - Software Design   3 units
This course focuses on programming paradigms and constructs, data structures and use of standard library functions for manipulating them, object-oriented design and the use of modeling languages, testing and software quality concepts, and tradeoffs among different software design methods. *Pre-req: CpE072L; Co-req: CpE121C-L*

CpE121C-L - Software Design Lab
1 unit

This course focuses on providing hands-on experience in CpE123C (Software Design). *Pre-req: CpE072L; Co-req: CpE123C*

CpE153 - Logic Circuits and Design
3 units

The course includes design and analysis or digital circuits. This course covers both combinational (synchronous and asynchronous) logic circuits with emphasis on solving digital problems using hardwired structures of the complexity of medium and large-scale integration. *Pre-req: CpE053, CpE051L; Co-req: CpE151L*

CpE151L - Logic Circuits and Design Lab
1 unit

This course focuses on providing hands-on experience in designing digital circuits. *Pre-req: CpE053, CpE051L; Co-req: CpE153*

CpE 203B – Operating Systems
3 units

This course includes different policies and strategies used by an operating system. Topics include operating systems structures, process management, storage management, file management and distributed systems. *Pre-req: CpE072L; Co-req: None*

CpE213B - Data and Digital Communications
3 units

This course focuses on the fundamental concepts of digital and data communications. It also includes topics on data security and integrity. *Pre-req: CpE053, CpE051L; Co-req: None*

CpE321L - Introduction to Hardware Description Language (HDL)
1 unit

A laboratory course that introduces hardware description language as a tool for designing and testing combinational and sequential circuits. It covers fundamental of concepts of HDL and the basic building blocks of HDL programming. *Pre-req: CpE012L, CpE053, CpE; Co-req: None*

EN233 - Feedback and Control Systems
3 units

The course includes the control devices, equations of a systems and block diagram of systems. *Pre-req: MATH303, CpE033, CpE031L; Co-req: None*

CpE161B-L - Computer Engineering Drafting and Design Lab
1 unit

This course focuses on the principles of layout of electrical, electronics, and logic drawings; stressing modern representation used for block diagrams, wiring/assembly, drawings, printed circuit board layouts, and etching. *Pre-req: CpE053, CpE051L; Co-req: None*

ENGG183 - Basic Occupational Health and Safety
3 units

This course tackles key Occupational Health and Safety (OSH) concepts, principles and practices that are foundational knowledge requirements applicable in almost all industries. Specifically, it assists learners in identifying the key elements in the OSH situation both here and abroad; determine existing and potential safety and health hazards; identify the range of control measures; discuss pertinent provisions of Philippine laws that refer to occupational safety and health; explain key principles in effectively communicating OSH; identify components of effective OSH programs and demonstrate some skills in identifying hazards and corresponding control measures at the workplace. *Pre-req: None; Co-req: None*

CpE263B - Computer Networks and Security
3 units

The course includes the basic principles of network architecture, computer network design, services, technologies and network security. *Pre-req: Pre-req: CpE213B; Co-req: CpE261B-L*

CpE261B-L - Computer Networks and Security Lab
1 unit

This course provides hands-on laboratory activities on computer networking. It focuses on the configuration of TCP/IP, routers and switches, network security and wireless fidelity. *Pre-req: CpE213B; Co-req: CpE263B*

EN253 - Microprocessors
3 units

This course provides understanding of architecture of microprocessor-based systems; registers, study of microprocessor operation, assembly language, arithmetic operations, and interfacing. *Pre-req: CpE153,CpE151L, CpE321L; Co-req: EN251L, EN263*

EN251L - Microprocessors Lab
1 unit

This course provides understanding of architecture of microprocessor-based systems; study of microprocessor operation, assembly language, arithmetic operations, and interfacing. *Pre-req: CpE153,CpE151L, CpE321L; Co-req: EN253, EN263*

CpE253B - Digital Signal Processing
3 units

The course includes the need for and tradeoffs made when sampling and quantizing a signal; linear, time-invariant system properties; frequency as an analysis domain complementary to time; and filter design. *Pre-req: EN233, Co-req: CpE251B-L*

CpE251B-L - Digital Signal Processing Lab
1 unit

This course is designed to provide hands-on activities on different applications of digital signals processing. *Pre-req: EN233, Co-req CpE253B*

EN263 – Methods of Research
3 units

This course will provide in-depth understanding of research through exploration of different research methodologies and ethics. It includes qualitative and quantitative research, descriptive and other applicable research methodologies, inferential statistics and introduction to data mining. *Pre-req: CpE153,CpE151L; Co-req: EN253, EN251L*

CpE342 - CpE Laws and Professional Practice
2 units

This course provides the importance of the professional and ethical responsibilities of practicing computer engineers and the effects of their work on society; the importance of understanding contemporary issues, lifelong learning strategies; and applicable IT laws in the field of computer engineering. *Pre-req: None; Co-req: None*

CpE333 - Embedded Systems
3 units

This course provides advanced topics in embedded systems design using contemporary practice; interrupt-driven, reactive, real-time, object- oriented, and distributed client/server embedded systems. *Pre-req: EN233; Co-req: CpE331L*

CpE331L - Embedded Systems Lab   1 unit
This course will provide hands-on activities designed to advanced topics in embedded systems design using contemporary practice; interrupt-driven, reactive, real-time, object- oriented, and distributed client/server embedded systems. *Pre-req: EN233; Co-req: CpE333*

CpE183A - Computer Architecture and Organization   3 units
This course includes the study of the evolution of computer architecture and the factors influencing the design of hardware and software elements of computer systems. The focus is on the understanding of the design issues specifically the instruction set architecture and hardware architecture. *Pre-req: CpE193, CpE191L; Co-req: CpE181A-L*

CpE181A-L - Computer Architecture and Organization Lab   1 unit
This course will provide hands-on activities designed to focus on the computer hardware issues specifically the instruction set architecture and hardware architecture. *Pre-req: EN253, EN251L; Co-req: CpE181A-L*

CpE253B/CpE251B-L – Digital Signal Processing/ Digital Signal Processing Lab   3/1 units
The course includes the need for and tradeoffs made when sampling and quantizing a signal; linear, time-invariant system properties; frequency as an analysis domain complementary to time; and filter design. (Digital Signal Processing Laboratory) This course is designed to provide hands-on activities on different applications of digital signals processing. *Pre-req: EN233 Co-req: CpE253B/251B-L*

CpE271B-L - Seminars and Field Trips Lab   1 unit
The course includes seminars and lecturers on current trends and issues on Computer Engineering developments. Include field trips to different companies and plants dealing with computer system facilities. *Pre-req: CpE342; Co-req: None*

CpE353 - Emerging Technologies in CpE   3 units
This course is designed to provide flexibility in the curriculum by discussing any emerging technologies applicable to computer engineering. *Pre-req: CpE342; Co-req: None*

CpE-PD1-L - CpE Practice and Design 1   1 unit
This course is the first course in a two-semester sequence that constitutes the design experience for undergraduate computer engineers. It provides essential ideas, concepts and principles in engineering design process and emphasizes other design issues including engineering standards and multiple constraints as well as effective communication strategies. Students work in teams to develop project proposals for assigned open-ended problems. Students are required to make oral presentations and submit written proposal for their projects. *Pre-req: EN263; Co-req: None*

CpE-PD2-L - CpE Practice and Design 2   2 units
This course is the second of the design experience for undergraduate computer engineering students. In this course, students will be expected to build/fabricate their design, test and evaluate the design against their design specifications, and demonstrate a fully functional project to their design review committee. Students make oral presentations and submit final reports documenting their projects. *Pre-req: CpE-PD1-L; Co-req: None*

CpE-PRC5 - Practicum (500hrs)   **5 units**

This course enables students to relate their acquired competencies to the realities and problems of industries in a multidisciplinary environment. This may include involvement in the industry's manpower requirements, development and research concerns, trainings, applications of principles, environmental concerns, ethical and behavioral concerns, decision making, and equipment and materials concerns. *Pre-req: CpE253B, CpE251B-L, CpE-PD2-L; Co-req: None*

* On-the-job Training - No simultaneous enrollment in any courses

F. TECHNICAL ELECTIVES

Track 1 - Embedded Systems

CpElec-1 - Embedded Systems   **3 units**

This course provides an introduction to embedded systems design. It presents the two aspects of embedded systems as both hardware and software in a unified view. The first part is an overview to embedded systems, design challenges, technologies and development and implementation tools. The second part explores the various hardware implementation technologies; custom single-processor, general-purpose processor and memory and peripheral devices interfacing. Finally, the third part covers IC and Design Technology. *Pre-req: CpE123C, CpE121C-L; Co-req: None*

CpElec-2 - Microelectronics   **3 units**

This course is an introduction to digital IC design. It covers topics on the electronic properties of materials, the process of fabrication of Digital IC, and the basic concepts in designing digital gates using CMOS design flow process, and the integration of these basic cell structures into fundamental system building blocks. *Pre-req: CpElec-1; Co-req: None*

CpElec-3 - Instrumentation and Control   **3 units**

The course includes concepts and application of controls and metrics in simple and complex control systems. *Pre-req: CpElec-2; Co-req: None*

Track 2 - Software Development

CpElec-1 - Python Programming   **3 units**

This course deals with Python Programming as preparation for Machine Learning. *Pre-req: CpE123C, CpE121C-L; Co-req: None*

CpElec-2 - Machine Learning I with Python Programming   **3 units**

This course provides a broad introduction to machine learning, data mining, and statistical pattern recognition. The course will also draw from numerous case studies and applications so it can be used to apply learning algorithms to building smart robots, text understanding, computer vision, medical informatics, audio, database mining, and other areas. *Pre-req: CpElec-1; Co-req: None*

CpElec-3 - Machine Learning II with Python Programming   **3 units**

This course provides knowledge on analyzing Big Data. It serves as a course for undergraduate students who are expecting to face Big Data storage, processing, analysis, visualization, and application issues on both workplaces and research environments. *Pre-req: CpElec-2; Co-req: None*

Track 3 - CISCO Networking Track

CpElec-1 - CISCO Networking Module 1   **3 units**

This course introduces students to the architecture, structure, functions, components, and models of the Internet and other computer networks. It uses the OSI and TCP layered models to examine the nature and roles of protocols and services at the application, network, data link, and physical layers. The principles and structure of IP addressing and the fundamentals of Ethernet concepts, media, and operations are introduced as well to provide a foundation for the curriculum. Labs use a "model internet" to allow students to analyze real data without affecting production networks. Packet tracer (PT) activities help students analyze protocol and network operation and build small networks in a simulated environment.
Pre-req: CpE123C, CpE121C-L; Co-req: None

CpElec-2 - CISCO Networking Module 2   **3 units**

This course introduces students to the architecture, components, operation of routers, and the principles of routing protocols. Students analyze, configure, verify, and troubleshoot the primary routing protocols (RIPv1, RIPv2, EIGRP, and OSPF). *Pre-req: CpElec-1; Co-req: None*

CpElec-3 - CISCO Networking Module 3 and 4   **3 units**

This course helps students develop an in-depth understanding of how switches operate and are implemented in the LAN environment for small and large networks. Beginning with a foundational overview of Ethernet, this course provides detailed explanations of LAN switch operation, VLAN implementation, Rapid Spanning Tree Protocol (RSTP), VLAN Trunking Protocol (VTP), Inter-VLAN routing, and wireless network operations. Students analyze, configure, verify, and troubleshoot VLANs, RSTP, VTP, and wireless networks. Campus network design and Layer 3 switching concepts are also introduced. This course also explains the principles of traffic control and access control lists (ACLs) and provides an overview of the services and protocols at the data link layer for wide-area access. Students learn user access technologies and devices and discover how to implement and configure Point-to-Point Protocol (PPP), Point-to-Point Protocol over Ethernet (PPPoE), DSL, and Frame Relay. WAN security concepts, tunneling, and VPN basics are also introduced. The course ends in a discussion of the special network services required by converged applications and an introduction to quality of service (QoS). *Pre-req: CpElec-2; Co-req: None*

PROGRAM DESCRIPTION

Electronics Engineering is the engineering discipline that focuses on the design, development, testing, and production of electronic devices, circuits, and systems. It deals with the study of electronic components, their behavior, and the principles behind their operation. Electronics engineers apply their knowledge of physics, mathematics, and electronics engineering principles to design and create electronic systems that are used in a wide range of applications, such as telecommunications, consumer electronics, medical devices, automotive systems, industrial automation, and more.

Bachelor of Science in Electronics engineering offers a wide range of career opportunities in various industries. Some potential career paths for electronics engineering graduates are Automation Engineer, Biomedical Engineering Professional Broadcast Engineer, Cyber security Engineer, Data Communications Engineer, Engineering Instructor, Engineering Project Manager, Engineering Researcher, Quality Assurance Engineer, Instrumentation and Control Engineer, Internet of Things Engineer, Product Development Engineer, Power Electronics Engineer, Test Engineer, Systems Design Engineer and Telecommunications Engineer. The specific roles and industries can vary depending on your specialization, experience, and personal interests.

Program Educational Objectives

Three to five years after graduation, the BS Electronics Engineering (BSECE) alumni shall:
1. Advance their practice in the field of electronics engineering;
2. Assume at least a supervisory position in the same or related field of endeavor;
3. Manifest proper ethical principles and values founded in Filipino, Dominican and Christian orientation;
4. Contribute goodwill in the country and other nations; and
5. Pursue advance education and professional training activities to become world class professionals.

Program Outcomes and Performance Indicators

Upon completion of BS Electronics Engineering (BSECE), the graduate, who is trained in a culture of conscience and excellence with Filipino, Dominican, and Christian in orientation, must be able to:

Program Outcomes	Performance Indicators
1. Articulate and discuss the latest developments in the specific field of practice and demonstrate a service orientation in one's profession	• Engage in continual learning and service in one's specialization
2. Preserve and promote Filipino historical and cultural heritage (based on RA No. 7722)	• Demonstrate responsible Filipino citizenship in local, national or international communities

3. Participate in various types of employment, development activities, and public discourses, particularly in response to the needs of the communities one serves	• Plan and take action for the welfare of the community • Continually engage oneself in development projects and activities that address the community needs
4. Manifest strong commitment and conviction to the Christian and Dominican teachings and philosophy in thoughts, words, and deeds	• Observe the Dominican values of study, prayer, community, and service • Uphold ecological consciousness and engage in environmental stewardship
5. Manifest competencies supporting national, regional and local development plans	• Use appropriate technique/s that can be applied in developing a project for national, regional, or local consumption. • Perform preliminary and detailed design that satisfies all the requirements, maximizing the resources available. • Develop technology-based project for national, regional, or local consumption.
6. Apply knowledge of mathematics and science to solve complex electronics engineering problems	• Analyze the parameters from the given data that are needed in solving the problem • Formulate the needed equation in solving the problem

	- Develop the procedure in solving the problem. - Apply the appropriate mathematical tools in solving the problem.
7. Develop and conduct experiments, as well as to analyze and interpret data	- Define objectives of the experiment - Collect sufficient and appropriate data to support the objectives of the experiment - Analyze data using appropriate methods - Relate data analysis to the objectives of the experiment - Draw out appropriate or reasonable conclusions
8. Design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability, in accordance with standards	- Gather information on relevant fundamentals, theory / concepts, similar existing systems (demonstrate technical competence). - Define the problem and identify the design constraints, which may include economic, environmental, political, ethical, and health and safety constraints - Define functional requirements for the design (specific required actions necessary for the design to be achieved). - Perform preliminary and detailed design that satisfies all the requirements, maximizing the resources available.

	• Systematically present the designed system, component, or process
9. Identify, formulate, and solve complex electronics engineering problems	• Identify problem/s in a community that requires expertise in electronics engineering based on needs assessment • Formulate problem statement, objectives, scope, and limitations, and identify resources required to solve the problems • Provide technical solution/s to the problem that is acceptable to the stakeholders • Demonstrate the use of appropriate modern tools to solve the problems
10. Act in recognition of professional, social, and ethical responsibility	• Apply professional standards (use of handbooks, codes, standards) in obtaining, reporting, analyzing data or in crafting design. • Demonstrate high academic standards, personal responsibilities, and exercise good judgment and discretion. • Immerse in an actual working environment in industry • Evaluate the ethical and societal implications of a design solution to problem in electronics engineering

11. Effectively communicate orally and in writing using English, Filipino, mother tongue language, and an appropriate Foreign Language required by the industry	• Express oneself clearly in verbal or written forms the updates in one's career or vocation • Convey positive Filipino values in one's decisions and actions • Present a proposed solution in class or in a public forum • Defend satisfactorily his/her thesis/design project from a panel of experts
12. Identify and analyze the impact of electronics engineering solutions in a global, economic, environmental, and societal context	• Investigate a given engineering problem and propose related solutions • Analyze the short and long term impact (political, economic, environmental, health and safety, cultural) of proposed solutions on society (individual, local, regional or global context) • Choose the best engineering solution that will have the best impact on the society. • Criticize/ justify the effects of engineering solutions to a given problem.
13. Recognize the need for, and engage in life-long learning	• Aware of the need for life-long learning • Engaged in life-long learning activities
14. Know, articulate, and discuss contemporary issues and development in the specific field of practice	• Identify and relate in a variety of contemporary issues or topic

	- Discuss technical issues relevant to field of practices - Design the appropriate technique that can be applied in assessing the interrelationships of the cited contemporary issues
15. Apply techniques, skills, and modern engineering tools necessary for engineering practice	- Utilize problem solving and design techniques/methods in their discipline. - Solve problems using current software used in the discipline. - Utilize the available hardware/equipment used in the discipline
16. Apply knowledge of engineering and management principles as a member and leader of a team, and to manage projects in a multi-disciplinary environment	- Understand the fundamentals of team dynamics and leadership - Function as an effective member or leader of diverse engineering teams and earn the trust and confidence of colleagues through competent and timely completion of tasks

	- Recognize the value of alternative and various viewpoints, and to know the importance of professional networking from other team members - Confidently pursue and discern expert assistance and professional advice from other members - Take initiative and fulfill the leadership role, while respecting the agreed roles of others
17. Infer at least one specialized field of electronics engineering practice	- Identify and relate in a variety of specialized fields of Electronics Engineering practice. - Discuss technical issues relevant to fields of practice. - Design the appropriate technique that can be applied in assessing the inter-relationships of the cited specialized fields of Electronics Engineering practice.
19. Manifest competencies supporting national, regional and local development plans	- Use appropriate technique/s that can be applied in developing a project for national, regional and local consumption. - Perform preliminary and detailed design that satisfies all the requirements, maximizing the resources available. - Develop technology-based project for national, regional, or local consumption.

BACHELOR OF SCIENCE IN ELECTRONICS ENGINEERING
GENERAL SUMMARY OF COURSES

I. General Education Courses

  A. Core Courses   **24**

GEC003	Understanding the Self	3
GEC013	Science, Technology, and Society	3
GEC023	Mga Babasahin Hinggil sa Kasaysayan ng Pilipinas	3
GEC033	Mathematics in the Modern World	3
GEC043	The Contemporary World	3
GEC053	Art Appreciation	3
GEC063	Purposive Communication	3
GEC073	Ethics	3

  B. CHED Mandated Courses   **26**

    a. Rizal Course

RZL023	Buhay at Mga Akda ni Rizal	3

    b. Physical Education Courses

PATHFIT1002	Movement Competency Training	2
PATHFIT2022	Exercise Based Fitness Activities	2
PATHFIT3032	Individual/Dual Sports	2
PATHFIT4042	Contemporary Dance	2

    c. National Service Training Program

NSTP1-18	National Service Training Program 1	3
NSTP2-18	National Service Training Program 2	3

    d. GENED Elective Courses

GECELEC1	Living in the IT Era	3
GECELEC2	The Entrepreneurial Mind	3
GECELEC3	Philippine Popular Culture	3

  C. Institutional Mandated Courses   **24**

    a. Religious Education Courses

RELED053	The Catholic Christian Faith	3
RELED063	Contemporary Issues in Christian Marriage	3
RELED073	Contemporary Issues About Church and Human Society with Immersion	3
RELED083	Christian Ethics	3

    b. Letran Quality Enrichment Courses

LQEC23-013	Letran Quality Enhancement Course I (Letran Calamba Identity and 21st Century Learning	3
LQEC23-023	Letran Quality Enhancement Course II (21st Century Literacy Skills & Life Skills and	3
ECE-ST006	Special Topics for ECE	6

II. TECHNICAL COURSES

  A. Mathematics   **18**

MATH153A	Calculus 1	3
MATH153B	Calculus 2	3
MATH223	Differential Equations	3
MATH323	Engineering Data Analysis	3
MATH343A	Engineering Mathematics 1	3
MATH343B	Engineering Mathematics 2	3

  B. Natural/Physical Sciences   **8**

CHM083	Chemistry for Engineers	3

CHM081L	Chemistry for Engineers Lab	1
PHY083	Physics for Engineers	3
PHY081L	Physics for Engineers Lab	1

C. Basic Engineering Sciences   **9**

Drw051L	Computer Aided Drafting	1
ENGG103	Engineering Economics	3
ENGG112	Engineering Management	2
ENGG193	Technopreneurship	3

D. Allied Courses   **20**

CoENG002L	Computer Fundamentals and Programming Lab	2
ECE013A	Circuits I	3
ECE011A-L	Circuits I Lab	1
ECE013B	Circuits II	3
ECE011B-L	Circuits II Lab	1
ENGG043	Materials Science and Engineering	3
ENGG083	Environmental Science and Engineering	3
PHY103.	Physics 2	3
PHY101L.	Physics 2 Lab	1

E. Professional Courses   **61**

ECE024	Electromagnetics	4
ECE033A	Electronics I: Electronic Devices and Circuits	3
ECE031A-L	Electronics I: Electronic Devices and Circuits Lab	1
ECE033B	Electronics II: Electronic Circuits Analysis and Design	3
ECE031B-L	Electronics II: Electronic Circuits Analysis and Design Lab	1
ECE033C	Electronics III: Electronics Systems and Design	3
ECE031C-L	Electronics III: Electronics Systems and Design Lab	1
ECE053B	Signals, Spectra & Signal Processing	3
ECE051B-L	Signals, Spectra & Signal Processing Lab	1
ECE133B	ECE Laws, Contracts, Ethics, Standards, and Safety	3
ECE171A-L	Seminars / Colloquium Lab	1
ECE203	Communications 1: Principles of Communication Systems	3
ECE201L	Communications 1: Principles of Communication Systems Lab	1
ECE223	Communications 2: Modulation and Coding Techniques	3
ECE221L	Communications 2: Modulation and Coding Techniques Lab	1
ECE243	Communications 3: Data Communications	3
ECE241L	Communications 3: Data Communications Lab	1
ECE253	Microprocessors & Microcontroller Systems	3
ECE251L	Microprocessors & Microcontroller Systems Lab	1
ECE263	Communications 4: Transmission Media, Antenna System and Design	3
ECE261L	Communications 4: Transmission Media, Antenna System and Design Lab	1
ECE-DPA-L	ECE Design 1 Lab	1
ECE-DPB-L	ECE Design 2 Lab	1
EN233	Feedback and Control Systems	3
EN231L	Feedback and Control Systems Lab	1
EN243	Logic Circuits and Switching Theory	3
EN241L	Logic Circuits and Switching Theory Lab	1
EN263	Methods of Research	3
MATHECE253	Advanced Engineering Mathematics for ECE	3
MATHECE251	Advanced Engineering Mathematics for ECE Lab	1

F. Technical Electives   **8**

      ECE-ELEC1   ECE Elective 1   3
      ECE-ELEC1L ECE Elective 1 Lab   1
      ECE-ELEC2   ECE Elective 2   3
      ECE-ELEC2L ECE Elective 2 Lab   1

G. On the JobTraining   **3**

      EE-PRC3   Practicum (300 hrs)   3

                                       TOTAL UNITS   **201**

BACHELOR OF SCIENCE IN ELECTRONICS ENGINEERING
Curriculum Year 2023-2024

COURSE CODE	COURSE TITLE	Lec Units/Hours	Lab Units	Lab Hrs	TOTAL	PRE-REQUISITES/ CO-REQUISITES
FIRST YEAR, First Semester						
CHM081L	Chemistry for Engineers Lab		1	3	*1*	co-req CHM083
CHM083	Chemistry for Engineers	3			*3*	co-req CHM081L
DRW051L	Computer Aided Drafting		1	3	*1*	
GEC013	Science, Technology, and Society	3			*3*	
GEC063	Purposive Communication	3			*3*	
LQEC23-013	Letran Quality Enhancement Course I (Letran Calamba Identity and 21st Century Learning Skills)	3			*3*	
MATH153A	Calculus 1	3			*3*	
MATH343A	Engineering Mathematics 1	3			*3*	
NSTP1-18	National Service Training Program 1	3			*3*	
PATHFIT1002	Movement Competency Training	2			*2*	
	Total	**23**	**2**	**6**	**25**	
FIRST YEAR, Second Semester						
GEC003	Understanding the Self	3			*3*	
GEC033	Mathematics in the Modern World	3			*3*	
MATH153B	Calculus 2	3			*3*	MATH153A; co-req PHY083, PHY081L
MATH323	Engineering Data Analysis	3			*3*	MATH153A
MATH343B	Engineering Mathematics 2	3			*3*	MATH343A
NSTP2-18	National Service Training Program 2	3			*3*	NSTP1-18
PATHFIT2022	Exercise-Based Fitness	2			*2*	PATHFIT1002
PHY081L	Physics for Engineers Lab		1	3	*1*	MATH153A; co-req MATH153B, PHY083
PHY083	Physics for Engineers	3			*3*	MATH153A; co-req MATH153B, PHY081L
RELED053	The Catholic Christian Faith	3			*3*	
	Total	**26**	**1**	**3**	**27**	
SECOND YEAR, First Semester						
CoENG002L	Computer Fundamentals and Programming Lab		2	6	*2*	
ECE011A-L	Circuits I Lab		1	3	*1*	PHY083, PHY081L, co-req ECE013A
ECE013A	Circuits I	3			*3*	PHY083, PHY081L, co-req ECE011A-L
GEC073	Ethics	3			*3*	
GECELEC1	Living in the IT Era	3			*3*	
LQEC23-023	Letran Quality Enrichment Course II (21st Century Literacy Skills & Life	3			*3*	LQEC23-013
MATH223	Differential Equations	3			*3*	MATH153B
PATHFIT3032	Individual/Dual Sports	2			*2*	PATHFIT1002, PATFIT2022
PHY101L.	Physics 2 Lab		1	3	*1*	PHY083, PHY081L, co-req PHY103
PHY103.	Physics 2	3			*3*	PHY083, PHY081L, co-req PHY101L
RELED063	Contemporary Issues in Christian Marriage	3			*3*	RELED053
	Total	**23**	**4**	**12**	**27**	
SECOND YEAR, Second Semester						
ECE011B-L	Circuits II Lab		1	3	*1*	ECE013A,ECE011A-L, co-req ECE013B
ECE013B	Circuits II	3			*3*	ECE013A,ECE011A-L, co-req ECE011B-L
ECE024	Electromagnetics	4			*4*	MATH223
ECE033A	Electronics I: Electronic Devices and Circuits	3			*3*	ECE013A,ECE011A-L, co-req ECE033A, ECE013B, ECE011B-L. ECE203. ECE201L
ECE031A-L	Electronics I: Electronic Devices and Circuits Lab		1	3	*1*	ECE013A,ECE011A-L, co-req ECE031A-L, ECE013B, ECE011B-L. ECE203. ECE201L
ECE201L	Communications 1: Principles of Communication Systems Lab		1	3	*1*	co-req ECE203, ECE033A,ECE031A-L
ECE203	Communications 1: Principles of Communication Systems	3			*3*	co-req ECE201L, ECE033A, ECE031A-L

Code	Title	Lec	Lab	Hrs	Units	Pre/Co-requisite
GECELEC2	The Entrepreneurial Mind	3			3	
PATHFIT4042	Contemporary Dance	2			2	PATHFIT1002, PATHFIT2022
RELED083	Christian Ethics	3			3	RELED053
RZL023	Buhay at Mga Gawa ni Rizal	3			3	
	Total	**24**	**3**	**9**	**27**	

SECOND YEAR, Inter - Semester

Code	Title	Lec	Lab	Hrs	Units	Pre/Co-requisite
ENGG103	Engineering Economics	3			3	MATH153A
MATHECE251L	Advanced Engineering Mathematics for ECE Lab		1	3	1	MATH223, co-req MATHECE253
MATHECE253	Advanced Engineering Mathematics for ECE	3			3	MATH223, co-req MATHECE251L
	Total	**6**	**1**	**3**	**7**	

THIRD YEAR, First Semester

Code	Title	Lec	Lab	Hrs	Units	Pre/Co-requisite
ECE031B-L	Electronics II: Electronic Circuits Analysis and Design Lab		1	3	1	ECE033A, ECE031A-L, co-req ECE033B
ECE033B	Electronics II: Electronic Circuits Analysis and Design	3			3	ECE033A, ECE031A-L, co-req ECE031B-L
ECE051B-L	Signals, Spectra & Signal Processing Lab		1	3	1	MATHECE253, MATHECE251L, co-req ECE053B
ECE053B	Signals, Spectra & Signal Processing	3			3	MATHECE253, MATHECE251L, co-req ECE051B-L
ECE221L	Communications 2: Modulation and Coding Techniques Lab		1	3	1	ECE203, ECE201L, co-req ECE223
ECE223	Communications 2: Modulation and Coding Techniques	3			3	ECE203, ECE201L, co-req ECE221L
EN231L	Feedback and Control Systems Lab		1	3	1	MATHECE253, MATHECE251L, co-req EN233
EN233	Feedback and Control Systems	3			3	MATHECE253, MATHECE251L, co-req EN231L
EN241L	Logic Circuits and Switching Theory Lab		1	3	1	ECE033A, ECE031A-L, co-req EN243
EN243	Logic Circuits and Switching Theory	3			3	ECE033A, ECE031A-L, co-req EN241L
GECELEC3	Philippine Popular Culture	3			3	
RELED073	Contemporary Issues about Church and Human Society with Immersion	3			3	RELED053
	Total	**21**	**5**	**15**	**26**	

THIRD YEAR, Second Semester

Code	Title	Lec	Lab	Hrs	Units	Pre/Co-requisite
ECE031C-L	Electronics III: Electronics Systems and Design Lab		1	3	1	ECE033B, ECE031B-L, co-req ECE033C
ECE033C	Electronics III: Electronics Systems and Design	3			3	ECE033B, ECE031B-L, co-req ECE031C-L
ECE171A-L	Seminars / Colloquium Lab		1	3	1	co-req ECE-DPA-L
ECE241L	Communications 3: Data Communications Lab		1	3	1	ECE223, ECE221L, co-req ECE243
ECE243	Communications 3: Data Communications	3			3	ECE223, ECE221L, co-req ECE241L
ECE251L	Microprocessors & Microcontroller Systems Lab		1	3	1	EN243, EN241L, co-req ECE253
ECE253	Microprocessors & Microcontroller Systems	3			3	EN243, EN241L, co-req ECE251L
ECE-DPA-L	ECE Design 1 Lab		1	3	1	ECE033B, ECE031B-L, co-req ECE171A-L, EN263
EN263	Methods of Research	3			3	co-req ECE-DPA-L
ENGG193	Technopreneurship	3			3	
GEC023	Mga Babasahin Hinggil sa Kasaysayan ng Pilipinas	3			3	
GEC043	The Contemporary World	3			3	
	Total	**21**	**5**	**15**	**26**	

THIRD YEAR, Inter-Semester

Code	Title	Lec	Lab	Hrs	Units	Pre/Co-requisite
ECE-ELEC1	ECE Elective 1	3			3	ECE243, ECE241L, co-req ECE-ELEC1L
ECE-ELEC1L	ECE Elective 1 Lab		1	3	1	ECE243, ECE241L, co-req ECE-ELEC1
ENGG112	Engineering Management	2			2	
	Total	**5**	**1**	**3**	**6**	

FOURTH YEAR, First Semester

Code	Title	Lec	Lab	Hrs	Units	Pre/Co-requisite
ECE133B	ECE Laws, Contracts, Ethics, Standards, and Safety	3			3	GEC073

_____	ECE261L	Communications 4: Transmission Media, Antenna System and Design Lab		1	3	**1**	ECE223, ECE221L, co-req. ECE263
_____	ECE263	Communications 4: Transmission Media, Antenna System and Design	3			**3**	ECE223, ECE221L, co-req. ECE261L
_____	ECE-DPB-L	ECE Design 2 Lab		1	3	**1**	ECE-DPA-L
_____	ECE-ELEC2	ECE Elective 2	3			**3**	ECE-ELEC1, ECE-ELEC1L, co req ECE-ELEC2L
_____	ECE-ELEC2L	ECE Elective 2 Lab		1	3	**1**	ECE-ELEC1, ECE-ELEC1L, co req ECE-ELEC2
_____	ENGG043	Materials Science and Engineering	3			**3**	CHM083, CHM081L
_____	ENGG083	Environmental Science and Engineering	3			**3**	CHM083, CHM081L
_____	GEC053	Art Appreciation	3			**3**	
		Total	**18**	**3**	**9**	**21**	

FOURTH YEAR, Second Semester

_____	ECE-PRC3	Practicum (300 hrs)*	3			**3**	ECE263, ECE261L
_____	ECE-ST006	Special Topics for ECE	6			**6**	ECE-ELEC2, ECE-ELEC2L
		Total	**9**	**0**	**0**	**9**	

GRAND TOTAL	**176**	**25**	**75**	**201**

Practicum - No simultaneous enrollment is allowed.

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COURSE DESCRIPTION

I. GENERAL EDUCATION COURSES

A. CORE COURSES

GEC003 - Understanding the Self   **3 units**

The course discusses the nature of identity, its factors and forces that affect the development and maintenance of personal identity. It is intended to facilitate the exploration of the issues and concerns regarding self and identity to arrive at a better understanding of one's self. It strives to meet this goal by stressing the integration of the personal with the academic — contextualizing matters discussed in the classroom and in the everyday experiences of students — making for better learning, generating a new appreciation for the learning process, and developing a more critical and reflective attitude while enabling them to manage and improve their selves to attain a better quality of life.

This also includes mandatory topics on Family Planning and Population Education. *Pre-req: None; Co-req: None*

GEC013 - Science, Technology, and Society   **3 units**

The course deals with interactions between science and technology and social cultural, political, and economic contexts, which shape and are shaped by them.

The interdisciplinary course engages students to confront the realities brought about by science and technology in society. Such realities pervade the personal, the public, and the global aspects of our living and are integral to human development. Scientific knowledge and technological development happen in the context of society with all its socio-political, cultural, economic, and philosophical underpinnings at play. This course seeks to instill reflective knowledge in the students that they are able to live the good life and display ethical decision making in the face of scientific and technological advancement.

This also includes discussion of climate change and environmental awareness as well as the implementation of the different environmental protection laws. *Pre-req: None; Co-req: None*

GEC023 - Mga Babasahin Hinggil sa Kasaysayan ng Pilipinas   **3 units**

Ang kursong ito ay tumatalakay sa mga piling primaryang sanggunian ukol sa iba't ibang yugto ng kasaysayan ng Pilipinas, pagsusuri at interpretasyon. Isasama din ang pagtalakay sa konstitusyon ng Pilipinas simula sa taong 1899 hanggang sa taong 1987. Ganun din ang pagtalakay sa repormang agraryo. Gayundin ang pagtalakay sa pagbubuwis bilang instrumento ng pamahalaan. Ito ay may kaugnayan sa tibay ng pagbubuwis bilang isa sa tatlong kapangyarihan ng pamahalaan na nakasaad sa Saligang Batas taong 1987. *Pre-req: None; Co-req: None*

GEC033 - Mathematics in the Modern World   **3 units**

The course discusses the nature of Mathematics, appreciation of its practical, intellectual, and aesthetic dimensions, and application of mathematical tools in daily life. *Pre-req: None; Co-req: None*

GEC043 - The Contemporary World
3 units

The course discusses globalization and its impact on individuals, communities and nations, challenges and responses. It introduces students to the contemporary world by examining the multifaceted phenomenon of globalization. Using the various disciplines of the social sciences, it examines the economic, social, political, technological, and other transformations that have created an increasing awareness of the interconnectedness of people and places around the globe. It provides an overview of the various debates in global governance, development, and sustainability. Beyond exposing the student to the world outside the Philippines, it seeks to inculcate a sense of global citizenship and global ethical responsibility.

This also includes mandatory topics on population education in the context of population and demography. *Pre-req: None; Co-req: None*

GEC053 - Art Appreciation
3 units

The course discusses the nature, function and appreciation of the arts in contemporary society. It intends to develop students' ability to appreciate, analyze, and critique works of art. Through interdisciplinary and multimodal approaches, this course equips students with a broad knowledge of the practical, historical, philosophical, and social relevance of the arts. This will hone their ability to articulate their understanding of the arts. It will also develop students' competency in researching and curating arts as well as conceptualizing, mounting, and evaluating art productions. The course aims to develop students' genuine appreciation for Philippine arts by providing them opportunities to explore the diversity and richness and their rootedness in Filipino culture. *Pre-req: None; Co-req: None*

GEC063 - Purposive Communication
3 units

The course discusses writing, speaking and presenting to different audiences and for various purposes. It develops students' communicative competence and enhances their cultural and intercultural awareness through multimodal tasks that provide them opportunities for communicating effectively and appropriately to a multicultural audience in a local or global context. It equips students with tools for critical evaluation of a variety of texts and focuses on the power of language and the impact of images to emphasize the importance of conveying messages responsibly. *Pre-req: None; Co-req: None*

GEC073 – Ethics
3 units

This course covers the context and tenets of ethical behavior in modern society including how individuals and communities interact with the environment and other common resources. It helps one to enhance their grasp of ethics and moral reasoning through the study of numerous theoretical viewpoints and moral experiences that make up so much of the core of daily life. By the end of the course, students should be able to articulate why and how people are seen as moral beings existing in a moral universe with a responsibility to protect themselves, one another, and the environment for everyone. *Pre-req: None; Co-req: None*

B. GENERAL EDUCATION ELECTIVE COURSES

GECELEC1 - Living in the IT Era   **3 units**
This general education elective course discusses how information technology shaped that way of life in the modern era. It discusses the science, culture and ethics information technology as well as how it affects contemporary life and interpersonal interactions and the way it may be used to promote one's social, professional, and personal goals. *Pre-req: None; Co-req: None*

GECELEC2 - The Entrepreneurial Mind   **3 units**
This general education elective course focuses on the nature and fundamentals of entrepreneurship as well as its societal responsibilities and repercussions. It is designed to assist students comprehend the business environment and encourage individuals adopt and innovative mindset. *Pre-req: None; Co-req: None*

GECELEC3 - Philippine Popular Culture   **3 units**
This general education elective course focuses on the emerging potential and expectation of mass audiences, markets and mass media, as well as their social, economic, and political settings, in the field of art, music, and literature. By the completion of the course, students should be able to demonstrate their appreciation of traditional and modern cultural expressions of as well as identify, analyze and develop trends in Philippine culture that have been inspired by various internal and external influences. *Pre-req: None; Co-req: None*

C. CHED MANDATORY COURSES

RZL023 - Buhay at Mga Akda ni Rizal   **3 units**
Ito'y isang pag-aaral sa buhay at gawa ni Gat. Jose Rizal at ang kaugnayan at kahalagahan sa nilalaman ng pangkasaysayang pagsulong ng lipunang Pilipino. Gamit ang istratehiyang 'Dambana" kung saan ang mag-aaral ay maglalaan ng panahon sa Bahay-Rizal sa Calamba, ang mag-aaral ay magiging kabahagi ng Rizal Shrine staff sa edukasyong pangkasaysayan ng mga panauhin sa Bahay-Rizal. *Pre-req: None; Co-req: None*

D. INSTITUTIONAL MANDATED COURSES

LQEC23-013 - Letran Quality Enrichment Course I (Letran Calamba Identity and 21st Century Learning Skills)   **3 units**
LQEC 1 is an enhancement course that is designed to introduce the identity of Colegio de San Juan de Letran Calamba including its history, Dominican spirituality, mission, vision, quality objectives, policies , processes and services. It also introduces the "Four Cs" of 21st Century Learning: Critical Thinking, Creativity, Collaboration and Communication that aims to enhance students' knowledge and awareness of the essential communication concepts and establish deep comprehension of the processes in a creative manner.
Furthermore, it helps the learners to formulate logical and well-thought-out reasoned judgments and promote active engagement with others to achieve a common goal. *Pre-req: None; Co-req: None*

LQEC23-023 - Letran Quality Enrichment Course II (21st Century Literacy Skills & Life Skills and Sustainability)   **3 units**
LQEC 2 is an enhancement course that is designed to provide basic understanding about leadership, flexibility, initiative, social skills and productivity. It also introduces digital literacy which focuses on fundamental understanding of media, technology, and information as tools for communication and the advancement of people and communities.
Moreover, the course also introduces the concept of Environment, Social, and Governance (ESG) which determines an organization's commitment to sustainability. All of these are necessary to help the learners become competitively employable in the future of work. *Pre-req: LQEC23-013; Co-req: None*

RELED053 - The Catholic Christian Faith   **3 units**
This course deals with the basic Catholic Christian Doctrine. It highlights the 12 articles of faith in the Apostles Creed, as well as the Sacred Scripture. Thus it guides the students to a life of truth, fidelity and worship to God. *Pre-req: None; Co-req: None*

RELED063 - Contemporary Issues in Christian Marriage   **3 units**
Contemporary Issues in Christian Marriage is a three unit academic subject. The emphasis of the course is on Marriage and Family presented as a vocation and a sacrament. The study prepares the students for the reception of the sacrament and achievement of a better outlook on the realities and complexities of the married state and family life. *Pre-req: RELED053; Co-req: None*

RELED073 - Contemporary Issues About Church and Human Society with Immersion   **3 units**
Contemporary Issues About Church and Human Society with Immersion is a three unit academic subject. This course studies the seven themes of the social teachings of the Catholic Church. It also tackles contemporary social issues which hamper the development of our country. An integral part of the course is Makipamuhay, a learning strategy that allows students to experience direct contact with the oppressed in society specifically the rural poor and leads them to develop personal as well as communal witnessing to authentic Christian faith. *Pre-req: RELED053; Co-req: None*

RELED083 - Christian Ethics   **3 units**
This course presents the foundations and fundamentals of Christian Ethics and their application to issues and concerns related to the Ten Commandments. *Pre-req: RELED053; Co-req: None*

E. PHYSICAL EDUCATION COURSES

PATHFIT1002 - Movement Competency Training   **2 units**
This course provides training in different movement and core engagement in conjunction with principles of healthy and physical active life. Students will be able to adopt and transfer the movement competency in different contexts. *Pre-req: None; Co-req: None*

PATHFIT2022 - Exercise-Based Fitness   2 units

This course provides experiences in core stability, strength, and mobility training. It includes goal setting exercise progression and regression and periodic assessment for the development of various fitness component. *Pre-req: PATHFIT1002; Co-req: None*

PATHFIT3032 - Individual/Dual Sports   2 units

This course puts emphasis on gaining basic knowledge of individual/dual sports, fitness and lifetime activities. It also includes different kinds of individual/dual sports. Students will learn the skills and game strategies for each sport as well as their historical background and terminology. Activities promote participation in physical activity to achieve good health and wellness. *Pre-req: PATHFIT1002, PATHFIT2022; Co-req: None*

PATHFIT4042 - Contemporary Dance   2 units

This course provides the students the foundations of contemporary dance technique and execution. It focuses on various movement concepts at each level, particularly designed solos, and the integration of organized improvisation to provide students, the opportunity to explore and come up with their own movement language. It encourages creativity by fusing elements of jazz, modern dance, lyrical dance, classical ballet, and other disciplines. *Pre-req: PATHFIT1002, PATHFIT2022; Co-req: None*

F. NATIONAL SERVICE TRAINING PROGRAM

NSTP1-18 - National Service Training Program 1   3 units

The National Service Training Program 1 is a curricular offering consisting of lectures and trainings on citizenship, values education, environment and drug education, disaster management, transformational leadership, dimensions of development and literacy and numeracy skills aimed to empower the youth as potential community leaders toward national development. *Pre-req: None; Co-req: None*

NSTP2-18 - National Service Training Program 2   3 units

The National Service Training Program 2 is a sequel to NSTP1. This course is designed to equip the students with the fundamentals of project identifications, planning implementation and evaluation which include but is not limited to lecture and training on social mobilization, community development, and community service. The students are required to undergo the process of community immersion in pursuit of applying the concepts learned in contributing to the general welfare of in the Colegio's partner communities. *Pre-req: NSTP1-18; Co-req: None*

II. TECHNICAL COURSES

A. MATHEMATICS

MATH153A - Calculus 1   **3 units**
The course covers the basic concepts of calculus such as limits, continuity and differentiability of functions; differentiation of algebraic and transcendental functions involving one or more variables; applications of differential calculus to problems on optimization, rates of change, related rates, tangents and normals, and approximations; partial differentiation and transcendental curve tracing. *Pre-req: None; Co-req: None*

MATH153B - Calculus 2   **3 units**
The course covers the concept of integration and its application to physical problems such as evaluation of areas, volumes of revolution, force, and work; fundamental formulas and various techniques of integration applied to both single variable and multi-variable functions; tracing of functions of two variables. It includes anti-derivatives, integration methods, definite integrals, multiple integrals, infinite series, and their applications. *Pre-req: MATH153A; Co-req: PHY083, PHY081L*

MATH223 - Differential Equations   **3 units**
It covers first order differential equations, nth order linear differential equations and systems of first order linear differential equations. It also introduces the concept of Laplace Transforms in solving differential equations. The students are expected to be able to recognize different kinds of differential equations, determine the existence and uniqueness of solution, select the appropriate methods of solution and interpret the obtained solution. Students are also expected to relate differential equations to various practical engineering and scientific problems as well as employ computer technology in solving and verifying solutions. *Pre-req: MATH155B; Co-req: None*

MATH323 - Engineering Data Analysis   **3 units**
This course introduces different methods of data collection and the suitability of using a particular method for a given situation. It includes a coverage and discussion of the relationship of probability to statistics, probability distributions of random variables and their uses, linear functions of random variables within the context of their application to data analysis and inference, estimation techniques for unknown parameters, and hypothesis testing used in making inferences from sample to population, inference for regression parameters and build models for estimating means and predicting future values of key variables under study. Statistically based experimental design techniques and analysis of outcomes of experiments are discussed with the aid of statistical software. *Pre-req: MATH153A; Co-req: None*

MATH343A - Engineering Mathematics 1   **3 units**
The course aims to provide a series of lectures to improve the students' knowledge and skills in College Algebra and Plane Trigonometry. *Pre-req: None; Co-req: None*

MATH343B - Engineering Mathematics 2   3 units

The course aims to provide a series of lectures to improve the students' knowledge and skills in Analytic Geometry and Solid Mensuration. *Pre-req: MATH343A; Co-req: None*

B. NATURAL/ PHYSICAL SCIENCES

CHM083/ CHM081L- Chemistry for Engineers/ Chemistry for Engineers Lab   3/1 units

Basic concepts of matter and its classification; mass relationships in chemical reactions; properties of gases, liquids, and solids; concepts of thermochemistry; quantum theory and electronic behavior; periodic relationship of elements in the periodic table; intramolecular forces; and solutions. *Lecture - Pre-req: None; Co-req: CHM081L; Laboratory - Pre-req: None Co-req: CHM083*

PHY083 / PHY081L - Physics for Engineers / Physics for Engineers Lab   3/1 units

Lecture: This course covers vectors; kinematics; dynamics; work, energy, and power; impulse and momentum; rotation; dynamics of rotation; elasticity; and oscillation. Fluids; thermal expansion, thermal stress; heat transfer; calorimetry; waves; electrostatics; electricity; magnetism; optics; image formation by plane and curved mirrors; and image formation by thin lenses.

Laboratory: A fundamental laboratory course designed to provide opportunity to observe and apply the principles and theories taught in the physics. *Lecture - Pre-req: MATH153A; Co-req: MATH153B, PHY081L; Laboratory - Pre-req: MATH153A; Co-req: MATH153B, PHY083*

C. BASIC ENGINEERING SCIENCES

DRW051L - Computer-Aided Drafting   1 unit

The course deals with the concepts of computer-aided drafting (CAD); introduction to the CAD environment; terminologies; and the general operating procedures and techniques in entering and executing basic CAD commands. *Pre-req: None Co-req: None*

ENGG103 - Engineering Economics   3 units

This course is an introduction to the concepts of the time value of money and equivalence; basic economy study methods; decisions under certainty; decisions recognizing risk; and decisions admitting uncertainty. *Pre-req: MATH153A; Co-req: None*

ENGG112 - Engineering Management   2 units

This course focuses on decision-making; the functions of management; managing production and service operations; managing the marketing function; and managing the finance function. *Pre-req: None; Co-req: None*

ENGG193 - Technopreneurship   3 units

This is a course on entrepreneurship with emphasis on the technology industry. The course introduces specific issues and characteristics found in the technology industry like history of technology, technology organization, marketing technology, financing technology ventures, governmental and legal factors like patents and copyright and technology strategies. The course also covers the value of professional and life skills in entrepreneurial thought, investment decisions, and actions that students can utilize in starting technology companies or executing R&D projects in companies. *Pre-req: None; Co-req: None*

D. ALLIED COURSES

CoENG002L - Computer Fundamentals and Programming Lab   **2 units**
Introduces the fundamental concepts of programming from an object oriented perspective. Topics are drawn from classes and objects, abstraction, encapsulation, data types, calling methods and passing parameters, decisions, loops, arrays and collections, documentation, testing and debugging, exceptions, design issues, inheritance, and polymorphic variables and methods. The course emphasizes modern software engineering and design principles. *Pre-req: None; Co-req: None*

ECE013A - Circuits I   **3 units**
Covers the basic concepts and fundamental laws of electrical circuit theory; analysis and applications of series, parallel and series-parallel resistive circuits; mesh and nodal analysis; network theorems; characteristics of inductors and capacitors; analysis of RL, RC, and RLC circuits with DC excitation. *Pre-req: PHY083, PHY081L; Co-req: ECE011A-L*

ECE011A-L - Circuits I Lab   **1 unit**
The laboratory component of ECE013A (Circuits I). *Pre-req: PHY083, PHY081L; Co-req: ECE013A*

ECE013B - Circuits II   **3 units**
Covers the steady state frequency domain analysis of RLC circuits driven by sinusoidal voltage/current source(s); impedance bridge circuits; application of mesh/nodal analysis and network theorems in AC circuit analysis; concept of power and power factor correction in AC circuits; resonant and tuned circuits; two port network analysis; analysis of dynamic circuits with AC excitation. *Pre-req: ECE013A, ECE011A-L; Co-req: ECE011B-L*

ECE011B-L - Circuits II Lab   **1 unit**
The laboratory component of ECE013B (Circuits II). *Pre-req: ECE013A, ECE011A-L; Co-req: ECE013B*

ENGG043 - Materials Science and Engineering   **3 units**
Structure and composition of materials (metals, polymers, ceramics and composites). Processing, properties and behavior in service environments. *Pre-req: CHM083, CHM081L; Co-req: None*

ENGG083 - Environmental Science and Engineering   **3 units**
This course deals with the ecological framework of sustainable development; pollution environments: water, air, and solid; waste treatment processes, disposal, and management; government legislation, rules, and regulation related to the environment and waste management; and environmental management system. *Pre-req: CHM083, CHM081L; Co-req: None*

PHY103. – Physics 2   **3 units**
Thermodynamics (1st & 2nd Law, basic concepts on heat engine and refrigerators), Energy Conversion (EM Induction, magnetic flux, generators), Semiconductor Physics. *Pre-req: PHY083, PHY081L; Co-req: PHY101L.*

PHY101L. - Physics 2 Lab   **1 unit**
A laboratory component of PHY103. (Physics). *Pre-req: PHY083, PHY081L; Co-req: PHY103.*

E. ELECTRONICS ENGINEERING PROFESSIONAL COURSES

MATHECE253 - Advanced Engineering Mathematics for ECE   3 units
A study of selected topics in mathematics and their applications in advanced courses in engineering and other allied sciences. It covers the study of Complex numbers and complex variables, Laplace and Inverse Laplace Transforms, Power series, Fourier series, Fourier Transforms, z-transforms, power series solution of ordinary differential equations, and partial differential equations. *Pre-req: MATH223; Co-req: MATHECE251L*

MATHECE251L - Advanced Engineering Mathematics for ECE Lab   1 unit
The laboratory component of MATHECE253 (Advanced Engineering Mathematics for ECE). *Pre-req: MATH223; Co-req: MATHECE253*

ECE024 – Electromagnetics   4 units
This course deals with vector algebra, vector calculus, vector analysis, and their applications in electric and magnetic fields, resistive, dielectric and magnetic materials, coupled circuits, magnetic circuits and fields, time-varying electromagnetic fields, and Maxwell's equations. *Pre-req: MATH223; Co-req: None*

ECE133B - ECE Laws, Contracts, Ethics, Standards, and Safety   3 units
Contracts; warranties; liabilities; patents; bids; insurance; other topics on the legal and ethical positions of the professional engineer. *Pre-req: GEC073; Co-req: None*

ECE033A - Electronics I: Electronic Devices and Circuits   3 units
Introduction to quantum mechanics of solid state electronics; diode and transistor characteristics and models (BJT and FET); diode circuit analysis and applications; transistor biasing; small signal analysis; large signal analysis; transistor amplifiers; Boolean logic; transistor switch. *Pre-req: ECE013A,ECE011A-L, Co-req: ECE031A-L, ECE013B, ECE011B-L, ECE203, ECE201L*

ECE031A-L - Electronics I: Electronic Devices and Circuits   1 unit
The laboratory component of ECE033A (Electronics I). *Pre-req: ECE013A, ECE011A-L, Co-req ECE033A, ECE013B, ECE011B-L, ECE203, ECE201L*

ECE033B - Electronics II: Electronic Circuits Analysis and Design   3 units
High frequency transistor models; analysis of transistor circuits; multi-stage amplifier, feedback, differential amplifiers and operational amplifiers; integrated circuit families (RTL, DTL, TTL, ECL, MOS). *Pre-req: ECE033A, ECE031A-L, Co-req: ECE031B-L*

ECE031B-L - Electronics II: Electronic Circuits Analysis and Design Lab   1 unit
The laboratory component of ECE033B (Electronics II). *Pre-req: ECE033A, ECE031A-L, Co-req: ECE033B*

ECE033C - Electronics III: Electronics Systems and Design   3 units
Theory, operating characteristics and design of electronic devices and control circuits for industrial processes; industrial control applications; electronics instrumentation; transducers; data acquisition system; interfacing techniques; sensors. *Pre-req: ECE033B, ECE031B-L, Co-req: ECE031C-L*

ECE031C-L - Electronics III: Electronics Systems and Design Lab   1 unit
The laboratory component of ECE033C (Electronics III). *Pre-req: ECE033B, ECE031B-L, Co-req: ECE033C*

ECE053B - Signals, Spectra and Signal Processing   3 units
Fourier transform; z transform; convolution; FIR filters; IIR filters; random signal analysis; correlation functions; DFT; FFT; spectral analysis; applications of signal processing to speech, image, etc. *Pre-req: MATHECE253, MATHECE251L, Co-req: ECE051B-L*

ECE051B-L - Signals, Spectra and Signal Processing Lab   1 unit
The laboratory component of ECE053B (Signals, Spectra and Signal Processing). *Pre-req: MATHECE253, MATHECE251L, Co-req: ECE053B*

EN243 - Logic Circuits and Switching Theory   3 units
This course includes design and analysis of digital circuits. It course covers both combinational (synchronous and asynchronous) logic circuits with emphasis on solving digital problems using hardwired structures of the complexity of medium and large-scale integration.*Pre-req: ECE033A, ECE031A-L, co-req EN241L*

EN241L - Logic Circuits and Switching Theory Lab   1 unit
The laboratory component of ECE093 (Dig Electro 1: Logic Circuits and Switching Theory). *Pre-req: ECE033A, ECE031A-L, Co-req: EN243*

ECE253 - Microprocessors & Microcontroller Systems   3 units
This course is the study of the design, and applications of microprocessor systems based on stated requirements. The focus is on the basic understanding of its structure and function in order to appreciate the architectural design of microprocessor. The students are encouraged to study various types of microprocessors in order to acquire a better understanding of microprocessor. *Pre-req: EN243, EN241L, co-req ECE251L*

ECE251L - Microprocessors & Microcontroller Systems Lab   1 unit
The laboratory component of ECE113 (Dig Electro 2: Microprocessor and Microcontroller Systems). *Pre-req: EN243, EN241L, Co-req: ECE253*

EN231L - Feedback and Control Systems Lab   1 unit
The laboratory component of ECE083 (Feedback and Control Systems). *Pre-req: MATHECE253, MATHECE251L, co-req EN233*

EN233 - Feedback and Control Systems   3 units
This course includes the control devices, equations of a systems and block diagram of systems. It deals with the different commands/techniques in control system, the equivalent transfer functions of different control current; and the criterion for the systems stability. *Pre-req: MATHECE253, MATHECE251L, Co-req: EN231L*

ECE203 - Communications 1: Principles of Communication Systems   3 units
Bandwidth; filters; linear modulation; angle modulation; phase locked loop; pulse modulation; multiplexing techniques; noise analysis; radio transmitters and receivers. *Pre-req: None; Co-req: ECE201L, ECE033A, ECE031A-L*

ECE201L - Communications 1: Principles of Communication Systems Lab　　　　**1 unit**
The laboratory component of ECE203 (COMM 1: Principles of Communication Systems). *Pre-req: None; Co-req: ECE203, ECE033A, ECE031A-L*

ECE223 - COMM 2: Modulations and Coding Techniques　　　　**3 units**
Random variables, bit error rate; matched filter; Digital modulation techniques; ASK, FSK, QAM, PSK/QPSK, CDMA and W-CDMA systems; signal space; generalized orthonormal signals; information measures-entropy; channel capacity; efficient encoding; error correcting codes information theory; data compression; coding theory. *Pre-req: ECE203, ECE201L, Co-req: ECE221L*

ECE221L - Communications 2: Modulation and Coding Techniques Lab　　　　**1 unit**
The laboratory component of ECE223 (COMM 2: Modulations and Coding Techniques). *Pre-req: ECE203, ECE201L, co-req ECE223*

ECE243 - Communications 3: Data Communications　　　　**3 units**
Data communication systems; terminals, modems; terminal control units; multiplexers; concentrators; front-end processors; common carrier services; data communication system design; computer network models; TCP/IP principles; LAN; WAN; sample case studies. *Pre-req: ECE223, ECE221L, Co-req: ECE241L*

ECE241L - Communications 3: Data Communications Lab　　　　**1 unit**
The laboratory component of ECE243 (COMM 3: Data Communications). *Pre-req: ECE223, ECE221L, Co-req: ECE243*

ECE263 - Communications 4: Transmission Media, Antenna System and Design　　　　**3 units**
Transmission media; radiowave propagation wire and cable transmission systems; fiber-optic transmission system; transmission lines and antenna systems. *Pre-req: ECE223, ECE221L; Co-req. ECE261L*

ECE261L - Communications 4: Transmission Media, Antenna System and Design Lab　　　　**1 unit**
The laboratory component of ECE263 (COMM 4: Transmission Media and Antenna Systems). *Pre-req: ECE223, ECE221L, Co-req. ECE263*

EN263 – Methods of Research　　　　**3 units**
This course deals with research preparation methods, research tools, research proposals, and the implementation, presentation and publication of research work. *Pre-req: None, Co-req: ECE-DPA-L*

ECE171A-L - Seminars / Colloquium Lab　　　　**1 unit**
This course deals with a series of lectures and seminars on selected topics that are highly relevant to electronics engineering but are not covered in any of the other formal courses. It covers recent advances in electronics engineering. It is also a venue for the students to present their projects and researches. *Pre-req: None; Co-req: ECE-DPA-L*

ECE-DPA-L - ECE Design 1 Lab　　　　**1 unit**
This is the capstone course which utilizes the fundamentals of electronics engineering in the design of an electronic system. It includes the synthesis of processes, analysis of process conditions and the analytic, heuristic and optimum design of equipment and processes. Economic analysis is included to estimate the cost of equipment, capital investment, total product cost and profitability. *Pre-req: ECE033B, ECE031B-L, Co-req: ECE171A-L, EN263*

ECE-DPB-L - ECE Design 2 Lab   **1 unit**
This is the capstone course which utilizes the fundamentals of electronics engineering in the design of an electronic system. It includes the synthesis of processes, analysis of process conditions and the analytic, heuristic and optimum design of equipment and processes. Economic analysis is included to estimate the cost of equipment, capital investment, total product cost and profitability. *Pre-req: ECE-DPA-L; Co-req: None*

F. TECHNICAL ELECTIVES

ECE-ELEC1 - ECE Elective 1   **3 units**
Pre-req: ECE243, ECE241L, Co-req ECE-ELEC1L

ECE-ELEC1L - ECE Elective 1 Lab   **1 unit**
Pre-req: ECE243, ECE241L, Co-req ECE-ELEC1

ECE-ELEC2 - ECE Elective 2   **3 units**
Pre-req: ECE-ELEC1, ECE-ELEC1L, Co req ECE-ELEC2L

ECE-ELEC2L - ECE Elective 2 Lab   **1 unit**
Pre-req: ECE-ELEC1, ECE-ELEC1L, co req ECE-ELEC2

TRACKS: Track I Telecommunications
          Track 2 Microelectronics
          Track 3 Power Electronics
          Track 4 Biomedical Electronics
          Track 5 Instrumentation and Control
          Track 6   Building Information and Communications Technology Infrastructure
          Track 7 Computer
          Track 8 Broadcasting

G. ON-THE-JOB TRAINING

ECE-PRC3 - Practicum (300hrs)   **3 units**
This course will enable the students to relate their acquired competencies to the realities and problems of industries. This may include involvement in the industry's manpower requirements, development and research concerns, trainings, applications of principles, environmental concerns, ethical and behavioral concerns, decision making, and equipment and materials concerns. *Pre-req: ECE263, ECE261L; Co-req: None*

H. INSTITUTIONAL COURSES

ECE-ST006 - Special Topic for ECE   **6 units**
The course provides essential knowledge on mathematics, engineering science and professional subjects to prepare the students on their licensure examinations. *Pre-req: ECE-ELEC2, ECE-ELEC2L; Co-req: None*

PROGRAM DESCRIPTION

Civil Engineering encompasses a variety of disciplines and use scientific and technical knowledge to solve problems related to building and infrastructure development and sustainable development. Mathematics and sciences, hydro-geotechnical and structural analysis and design are all core subjects in civil engineering programs.

Practical facets of the curriculum include laboratory work, design projects, and internships to provide hands-on experience and real-world application of the concepts learned. Civil engineering students will be involved in fieldwork such as surveying with a theodolite and a total station and performing laboratory tests that determine the mechanical and physical properties of construction materials. Students will engage in building a scaled model structure based on their proposed plans and drawings, which will be designed using structural code via empirical formulas and software-based analysis using Midas.

Career and Opportunities: Civil engineering graduates are equipped with the knowledge and skills, allowing them to make a significant contribution to society. Civil engineers can work in a variety of fields, including structural, geotechnical, transportation, water resource, environmental, construction project management, academe, research and development, government and infrastructure planning, and real estate development, depending on their interests and professional objectives.

Program Educational Objectives

Three to five years after graduation, the BS Civil Engineering (Structural) (BSCE) alumni shall:
1. Advance their practice in the field of Civil Engineering;
2. Assume at least a supervisory position in the same or related field of endeavor;
3. Manifest proper ethical principles and values founded in Filipino, Dominican and Christian orientation;
4. Contribute goodwill in the country and other nations; and
5. Pursue advance education and professional training activities to become world class professionals.

Program Outcomes and Performance Indicators

Upon completion of BS Civil Engineering (BSCE), the graduate, who is trained in a culture of conscience and excellence with Filipino, Dominican, and Christian in orientation, must be able to:

Program Outcomes	Performance Indicators
1. Articulate and discuss the latest developments in the specific field of practice and demonstrate a service orientation in one's profession	• Engage in continual learning and service in one's specialization
2. Preserve and promote Filipino historical and cultural heritage (based on RA No. 7722)	• Demonstrate responsible Filipino citizenship in local, national or international communities

3. Participate in various types of employment, development activities, and public discourses, particularly in response to the needs of the communities one serves	• Plan and take action for the welfare of the community • Continually engage oneself in development projects and activities that address the community needs
4. Manifest strong commitment and conviction to the Christian and Dominican teachings and philosophy in thoughts, words, and deeds	• Observe the Dominican values of study, prayer, community, and service • Uphold ecological consciousness and engage in environmental stewardship
5. Apply knowledge of mathematics and science to solve complex civil engineering problems	• Analyze the parameters from the given data that are needed in solving the problem • Formulate the needed equation in solving the problem • Develop the procedure in solving the problem. • Apply the appropriate mathematical tools in solving the problem.
6. Manifest competencies supporting national, regional and local development plans	• Use appropriate technique/s that can be applied in developing a project for national, regional, or local consumption. • Perform preliminary and detailed design that satisfies all the requirements, maximizing the resources available. • Develop technology-based project for national, regional, or local consumption.

7. Develop and conduct experiments, as well as to analyze and interpret data	• Define objectives of the experiment • Collect sufficient and appropriate data to support the objectives of the experiment • Analyze data using appropriate methods • Relate data analysis to the objectives of the experiment • Draw out appropriate or reasonable conclusions
8. Design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability, in accordance with standards	• Gather information on relevant fundamentals, theory / concepts, similar existing systems (demonstrate technical competence). • Define the problem and identify the design constraints, which may include economic, environmental, political, ethical, and health and safety constraints • Define functional requirements for the design (specific required actions necessary for the design to be achieved). • Perform preliminary and detailed design that satisfies all the requirements, maximizing the resources available. • Systematically present the designed system, component, or process
9. Work/Function effectively and independently in multi-disciplinary and multi-cultural teams	• Perform independently and cooperatively to accomplish worthwhile goals

	• Fulfill team role's duties as a member leader in any kind of group project or activity • Share in a team-based work
10. Identify, formulate, and solve complex civil engineering problems	• Identify problem/s in a community that requires expertise in civil engineering based on needs assessment Identify problem/s in a community that requires expertise in civil engineering based on needs assessment • Formulate problem statement, objectives, scope, and limitations, and identify resources required to solve the problems • Provide technical solution/s to the problem that is acceptable to the stakeholders • Demonstrate the use of appropriate modern tools to solve the problems
11. Act in recognition of professional, social, and ethical responsibility	• Apply professional standards (use of handbooks, codes, standards) in obtaining, reporting, analyzing data or in crafting design. • Demonstrate high academic standards, personal responsibilities, and exercise good judgment and discretion. • Immerse in an actual working environment in industry

	• Evaluate the ethical and societal implications of a design solution to problem in civil engineering
12. Effectively communicate orally and in writing using English, Filipino, mother tongue language, and an appropriate Foreign Language required by the industry	• Express oneself clearly in verbal or written forms the updates in one's career or vocation • Organize presentation/reports in well-structured logical sequence, making it easy for audience/reader to follow clearly the content. • Convey positive Filipino values in one's decisions and actions • Present a proposed solution in class or in a public forum • Defend satisfactorily his/her thesis/design project from a panel of experts
13. Identify and analyze the impact of civil engineering solutions in a global, economic, environmental, and societal context	• Investigate a given engineering problem and propose related solutions • Analyze the short and long term impact (political, economic, environmental, health and safety, cultural) of proposed solutions on society (individual, local, regional or global context) • Choose the best engineering solution that will have the best impact on the society. • Criticize/ justify the effects of engineering solutions to a given problem

14. Recognize the need for, and engage in life-long learning	• Aware of the need for life-long learning • Engaged in life-long learning activities
15. Know, articulate and discuss contemporary issues and development in the specific field of practice	• Identify and relate in a variety of contemporary issues or topic • Discuss technical issues relevant to field of practices • Design the appropriate technique that can be applied in assessing the interrelationships of the cited contemporary issues
16. Apply techniques, skills, and modern engineering tools necessary for civil engineering practice	• Utilize problem solving and design techniques/methods in their discipline. • Solve problems using current software used in the discipline. • Utilize the available hardware/equipment used in the discipline
17. Apply knowledge of engineering and management principles as a member and leader of a team, and to manage projects in a multi-disciplinary environment	• Understand the fundamentals of team dynamics and leadership • Function as an effective member or leader of diverse engineering teams and earn the trust and confidence of colleagues through competent and timely completion of tasks • Recognize the value of alternative and various viewpoints, and to know the importance of professional networking from other team members

	• Confidently pursue and discern expert assistance and professional advice from other members • Take initiative and fulfill the leadership role, while respecting the agreed roles of others
18. Infer at least one specialized field of civil engineering practice	• Identify and relate in a variety of specialized fields of Civil Engineering practice. • Discuss technical issues relevant to fields of practice. • Design the appropriate technique that can be applied in assessing the inter-relationships of the cited specialized fields of Civil Engineering practice

BACHELOR OF SCIENCE IN CIVIL ENGINEERING
GENERAL SUMMARY OF COURSES

I. TECHNICAL COURSES
A. Mathematics — 19

MATH155A	Calculus 1	3
MATH155B	Calculus 2	3
MATH223	Differential Equations	3
MATH323	Engineering Data Analysis	3
MATH332	Numerical Solutions to CE Problems	2
MATH331L	Numerical Solutions to CE Problems Lab	1

B. Natural/Physical Sciences — 10

CHM083	Chemistry for Engineers	3
CHM081L	Chemistry for Engineers Lab	1
GEO012	Geology for Civil Engineers	2
PHY083	Physics for Engineers	3
PHY081L	Physics for Engineers Lab	1

C. Basic Engineering Sciences — 23

CE002	Civil Engineering Orientation	2
CoENG002L	Computer Fundamentals and Programming Lab	2
DRW001L	Engineering Drawing and Plans	1
DRW051L	Computer Aided Drafting	1
ENGG002	Dynamics of Rigid Bodies	2
ENGG003	Statics of Rigid Bodies	3
ENGG064	Mechanics of Deformable Bodies	4
ENGG103	Engineering Economics	3
ENGG112	Engineering Management	2
ENGG193	Technopreneurship	3

D. Allied Courses — 6

ENGG253	Engineering Utilities 1	3
ENGG263	Engineering Utilities 2	3

E. Professional Courses — 49

CE013	Fundamentals of Surveying	3
CE011L	Fundamentals of Surveying Lab	1
CE022	Construction Materials and Testing	2
CE021L	Construction Materials and Testing Lab	1
CE033	Structural Theory	3
CE031L	Structural Theory Lab	1
CE043	Highway and Railroad Engineering	3
CE052	Building Systems Design	2
CE051L	Buliding Systems Design Lab	1

Code	Course	Units
CE062	Principles of Steel Design	2
CE061L	Principles of Steel Design Lab	1
CE073	Principles of Reinforced/Prestressed Concrete	3
CE071L	Principles of Reinforced/Prestressed Concrete Lab	1
CE091L	Hydraulics Lab	1
CE082	Hydrology	2
CE094	Hydraulics	4
CE102	C.E. Laws, Ethics, and Contracts	2
CE113	Geotechnical Engg 1-Soil Mechanics	3
CE111L	Geotechnical Engg 1-Soil Mechanics Lab	1
CE123	Principles of Transportation Engineering	3
CE131	Quantity Surveying	1
CE131L	Quantity Surveying Lab	1
CE153	Construction Methods and Project Management	3
CE-PJ1	CE Project 1	1
CE-PJ1-L	CE Project 1 Lab	1
CE-PJ2	CE Project 2	1
CE-PJ2-L	CE Project 2 Lab	1

F. Specialization Courses — **15**

Code	Course	Units
CE-SP1*	CE Specialized Course 1 (Reinforced Concrete Design)	3
CE-SP2*	CE Specialized Course 2 (Earthquake Engineering)	3
CE-SP3*	CE Specialized Course 3 (Design Of Steel Structures)	3
CE-SP4*	CE Specialized Course 4 (Computer Software In Structural Analysis)	3
CE-SP5*	CE Specialized Course 5 (Bridge Engineering)	3

G. On-the-Job Training — **3**

Code	Course	Units
CE-PRC	On-the-Job Training (300 hrs)	2
CE-PRC-L	On-the-Job Training Lab	1

H. Institutional Courses — **21**

Code	Course	Units
CE-ST112	Special Topics for CE	12
LQEC763	Letran Quality Enrichment Course 76	3
LQEC773	Letran Quality Enrichment Course 77	3
LQEC783	Letran Quality Enrichment Course 78	3

II. NON-TECHNICAL COURSES

A. General Education Courses — **24**

Code	Course	Units
GEC003	Understanding the Self	3
GEC013	Science, Technology and Society	3
GEC023	Mga Babasahín Hinggil sa Kasaysayan ng Pilipinas	3
GEC033	Mathematics in the Modern World	3
GEC043	The Contemporary World	3
GEC053	Art Appreciation	3
GEC063	Purposive Communication	3

	GEC073	Ethics	3	
B. Mandated Courses				**3**
	RZL023	Buhay at Mga Akda ni Rizal	3	
C. Filipino and Literature Courses				**9**
	Fil083	Komunikasyon sa Akademikong Filipino	3	
	Fil093	Pagbasa at Pagsulat Tungo sa Pananaliksik	3	
	FIL113	Panitikang Filipino	3	
D. Physical Education Courses				**8**
	PATHFIT1002	Movement Competency Training	2	
	PATHFIT2022	Exercise Based Fitness Activities	2	
	PATHFIT3032	Individual/Dual Sports	2	
	PATHFIT4042	Contemporary Dance	2	
E. National Service Training Program				**6**
	NSTP1-18	National Service Training Program 1	3	
	NSTP2-18	National Service Training Program 2	3	
F. Institutional Courses				**7**
	RELED051	The Catholic Christian Faith	1	
	RELED063	Contemporary Issues in Christian Marriage	3	

TOTAL UNITS **203**

BACHELOR OF SCIENCE IN CIVIL ENGINEERING (STRUCTURAL)
Curriculum Year 2022-2023

COURSE CODE	COURSE TITLE	Lec Units/Hrs	Lab Units	Lab Hrs	TOTAL	PRE-REQUISITES/ CO-REQUISITES
FIRST YEAR, First Semester						
CE002	Civil Engineering Orientation	2			2	
CHM081L	Chemistry for Engineers Lab		1	3	1	
CHM083	Chemistry for Engineers	3			3	
FIL083	Komunikasyon sa Akademikong Filipino	3			3	
GEC013	Science, Technology, and Society	3			3	
GEC023	Mga Babasahin Hinggil sa Kasaysayan ng Pilipinas	3			3	
GEC033	Mathematics in the Modern World	3			3	
MATH155A	Calculus 1	5			5	
NSTP1-18	National Service Training Program 1	3			3	
PATHFIT1002	Movement Competency Training	2			2	
RELED051	The Catholic Christian Faith	1			1	
	Total	28	1	3	29	
FIRST YEAR, Second Semester						
CoENG002L	Computer Fundamentals and Programming		2	6	2	
DRW001L	Engineering Drawing and Plans		1	3	1	
FIL093	Pagbasa at Pagsulat Tungo sa Pananaliksik	3			3	FIL083
GEC043	The Contemporary World	3			3	
LQEC763	Letran Quality Enrichment Course 76	3			3	
MATH155B	Calculus 2	5			5	MATH155A
NSTP2-18	National Service Training Program 2	3			3	NSTP1-18
PATHFIT2022	Exercise-Based Fitness	2			2	PATHFIT1002
PHY081L	Physics for Engineers Lab		1	3	1	MATH155A, co req PHY083
PHY083	Physics for Engineers	3			3	MATH155A, co req PHY081L
	Total	22	4	12	26	
SECOND YEAR, First Semester						
CE011L	Fundamentals of Surveying Lab		1	3	1	DRW001L, co req CE013
CE013	Fundamentals of Surveying	3			3	DRW001L, co req CE011L
DRW051L	Computer Aided Drafting		1	3	1	DRW001L
ENGG003	Statics of Rigid Bodies	3			3	MATH155B, PHY083, PHY081L
FIL113	Panitikang Filipino	3			3	FIL093
GEC003	Understanding the Self	3			3	
GEC053	Art Appreciation	3			3	
GEO012	Geology for Civil Engineers	2			2	CHM083, CHM081L
MATH223	Differential Equations	3			3	MATH155B
PATHFIT3032	Individual/Dual Sports	2			2	PATHFIT1002, PATHFIT2022
RELED063	Contemporary Issues in Christian Marriage	3			3	RELED051
	Total	25	2	6	27	
SECOND YEAR, Second Semester						
CE022	Construction Materials and Testing	2			2	ENGG003, co req CE021L, ENGG064
CE021L	Construction Materials and Testing Lab		1	3	1	ENGG003, co req CE022, ENGG064
CE043	Highway and Railroad Engineering	3			3	ENGG003, CE013, CE011L
ENGG002	Dynamics of Rigid Bodies	2			2	ENGG003, co req ENGG064

	Code	Course Title					Prerequisites
____	ENGG064	Mechanics of Deformable Bodies	4			4	ENGG003, co req CE022, CE021L, ENGG002
____	ENGG112	Engineering Management	2			2	
____	GEC073	Ethics	3			3	
____	LQEC773	Letran Quality Enrichment Course 77	3			3	LQEC763
____	MATH323	Engineering Data Analysis	3			3	
____	PATHFIT4042	Contemporary Dance	2			2	PATHFIT1002, PATHFIT2022
____	RELED073	Contemporary Issues about Church and Human Society with Immersion	3			3	RELED051
		Total	**27**	**1**	**3**	**28**	

SECOND YEAR, Inter-Semester

	Code	Course Title					Prerequisites
____	CE033	Structural Theory	3			3	ENGG002, ENGG064, co req CE031L
____	CE031L	Structural Theory Lab		1	3	1	ENGG002, ENGG064, co req CE033
		Total	**3**	**1**	**3**	**4**	

THIRD YEAR, First Semester

	Code	Course Title					Prerequisites
____	CE073	Principles of Reinforced/Prestressed Concrete	3			3	CE033, CE031L, co req CE071L
____	CE071L	Principles of Reinforced/Prestressed Concrete Lab		1	3	1	CE033, CE031L, co req CE073
____	CE082	Hydrology	2			2	ENGG002, ENGG064, co req CE094, CE091L
____	CE094	Hydraulics	4			4	ENGG002, ENGG064, co req CE082, CE091L
____	CE091L	Hydraulics Lab		1	3	1	ENGG002, ENGG064, co req CE082, CE094
____	CE123	Principles of Transportation Engineering	3			3	CE043
____	ENGG103	Engineering Economics	3			3	
____	ENGG253	Engineering Utilities 1	3			3	PHY083, PHY081L, co req ENGG263
____	ENGG263	Engineering Utilities 2	3			3	PHY083, PHY081L, co req ENGG253
____	GEC063	Purposive Communication	3			3	
____	MATH332	Numerical Solutions to CE Problems	2			2	MATH223, co req MATH331L
____	MATH331L	Numerical Solutions to CE Problems Lab		1	3	1	MATH223, co req MATH332
		Total	**26**	**3**	**9**	**29**	

THIRD YEAR, Second Semester

	Code	Course Title					Prerequisites
____	CE-PJ1	CE Project 1	1			1	CE073, CE071L, CE094, CE091L, CE123, co req CE-PJ1-L
____	CE-PJ1-L	CE Project 1 Lab		1	3	1	CE073, CE071L, CE094, CE091L, CE123, co req CE-PJ1
____	CE-SP1*	CE Specialized Course 1 (Reinforced Concrete Design)	3			3	CE073, CE071L, co req CE062, CE061L
____	CE-SP2*	CE Specialized Course 2 (Earthquake Engineering)	3			3	CE073, CE071L, co req CE062, CE061L
____	CE052	Building Systems Design	2			2	DRW051L, co req CE051L
____	CE051L	Buliding Systems Design Lab		1	3	1	DRW051L, co req CE052
____	CE062	Principles of Steel Design	2			2	CE073, CE071L, co req CE061L, CE-SP1, CE-SP2
____	CE061L	Principles of Steel Design Lab		1	3	1	CE073, CE071L, co req CE062, CE-SP1, CE-SP2
____	CE113	Geotechnical Engg 1-Soil Mechanics	3			3	CE033, CE031L, ENGG064, GEO012, co req CE111L
____	CE111L	Geotechnical Engg 1-Soil Mechanics Lab		1	3	1	CE033, CE031L, ENGG064, GEO012, co req CE113
____	ENGG193	Technopreneurship	3			3	ENGG112
____	LQEC783	Letran Quality Enrichment Course 78	3			3	LQEC773
		Total	**20**	**4**	**12**	**24**	

THIRD YEAR, Inter-Semester

	Code	Course Title					Prerequisites
____	CE-PRC	On-the-Job Training (300 hrs)	2			2	CE062, CE113, co-req CE-PRC-L

Code	Description	Lec	Lab	Hrs	Units	Pre-requisite / Co-requisite
____ CE-PRC-L	On-the-Job Training Lab		1	3	1	CE062, CE113, co-req CE-PRC
	Total	**2**	**1**	**3**	**3**	

FOURTH YEAR, First Semester

Code	Description	Lec	Lab	Hrs	Units	Pre-requisite / Co-requisite
____ CE-PJ2	CE Project 2	1			1	CE-PJ1, CE-PJ1-L, co req CE-PJ2-L
____ CE-PJ2-L	CE Project 2 Lab		1	3	1	CE-PJ1, CE-PJ1-L, co req CE-PJ2
____ CE-SP3*	CE Specialized Course 3 (Design Of Steel Structures)	3			3	CE073, CE071L
____ CE-SP4*	CE Specialized Course 4 (Computer Software In Structural Analysis)	3			3	CE062, CE061L
____ CE-SP5*	CE Specialized Course 5 (Bridge Engineering)	3			3	CE062, CE061L, CE073, CE071L
____ CE102	CE Laws, Ethics, and Contracts	2			2	CE-PRC, CE-PRC-L
____ CE131	Quantity Surveying	1			1	CE052, CE051L, co req CE131L
____ CE131L	Quantity Surveying Lab		1	3	1	CE052, CE051L, co req CE131
____ CE153	Construction Methods and Project Management	3			3	CE-PRC, CE-PRC-L
____ RZL023	Buhay at Mga Akda ni Rizal	3			3	
	Total	**19**	**2**	**6**	**21**	

FOURTH YEAR, Second Semester

Code	Description	Lec	Lab	Hrs	Units	Pre-requisite / Co-requisite
____ CE-ST112	Special Topics for CE	12			12	CE-SP3, CE-SP4
	Total	**12**			**12**	

| | **GRAND TOTAL** | | | | **203** | |

Practicum - No simultaneous enrollment is allowed.

jrd/01232023

COURSE DESCRIPTION

I. GENERAL EDUCATION COURSES

A. CORE COURSES

GEC003 - Understanding the Self   **3 units**
The course discusses the nature of identity, its factors and forces that affect the development and maintenance of personal identity. It is intended to facilitate the exploration of the issues and concerns regarding self and identity to arrive at a better understanding of one's self. It strives to meet this goal by stressing the integration of the personal with the academic — contextualizing matters discussed in the classroom and in the everyday experiences of students — making for better learning, generating a new appreciation for the learning process, and developing a more critical and reflective attitude while enabling them to manage and improve their selves to attain a better quality of life.

This also includes mandatory topics on Family Planning and Population Education. *Pre-req: None; Co-req: None*

GEC013 - Science, Technology, and Society   **3 units**
The course deals with interactions between science and technology and social cultural, political, and economic contexts, which shape and are shaped by them.
The interdisciplinary course engages students to confront the realities brought about by science and technology in society. Such realities pervade the personal, the public, and the global aspects of our living and are integral to human development. Scientific knowledge and technological development happen in the context of society with all its socio-political, cultural, economic, and philosophical underpinnings at play. This course seeks to instill reflective knowledge in the students that they are able to live the good life and display ethical decision making in the face of scientific and technological advancement.

This also includes discussion of climate change and environmental awareness as well as the implementation of the different environmental protection laws. *Pre-req: None; Co-req: None*

GEC023 - Mga Babasahin Hinggil sa Kasaysayan ng Pilipinas   **3 units**
Ang kursong ito ay tumatalakay sa mga piling primaryang sanggunian ukol sa iba't ibang yugto ng kasaysayan ng Pilipinas, pagsusuri at interpretasyon. Isasama din ang pagtalakay sa konstitusyon ng Pilipinas simula sa taong 1899 hanggang sa taong 1987. Ganun din ang pagtalakay sa repormang agraryo. Gayundin ang pagtalakay sa pagbubuwis bilang instrumento ng pamahalaan. Ito ay may kaugnayan sa tibay ng pagbubuwis bilang isa sa tatlong kapangyarihan ng pamahalaan na nakasaad sa Saligang Batas taong 1987. *Pre-req: None; Co-req: None*

GEC033 - Mathematics in the Modern World   **3 units**
The course discusses the nature of Mathematics, appreciation of its practical, intellectual, and aesthetic dimensions, and application of mathematical tools in daily life. *Pre-req: None; Co-req: None*

GEC043 - The Contemporary World
3 units

The course discusses globalization and its impact on individuals, communities and nations, challenges and responses. It introduces students to the contemporary world by examining the multifaceted phenomenon of globalization. Using the various disciplines of the social sciences, it examines the economic, social, political, technological, and other transformations that have created an increasing awareness of the interconnectedness of people and places around the globe. It provides an overview of the various debates in global governance, development, and sustainability. Beyond exposing the student to the world outside the Philippines, it seeks to inculcate a sense of global citizenship and global ethical responsibility.

This also includes mandatory topics on population education in the context of population and demography. *Pre-req: None; Co-req: None*

GEC053 - Art Appreciation
3 units

The course discusses the nature, function and appreciation of the arts in contemporary society. It intends to develop students' ability to appreciate, analyze, and critique works of art. Through interdisciplinary and multimodal approaches, this course equips students with a broad knowledge of the practical, historical, philosophical, and social relevance of the arts. This will hone their ability to articulate their understanding of the arts. It will also develop students' competency in researching and curating arts as well as conceptualizing, mounting, and evaluating art productions. The course aims to develop students' genuine appreciation for Philippine arts by providing them opportunities to explore the diversity and richness and their rootedness in Filipino culture. *Pre-req: None; Co-req: None*

GEC063 - Purposive Communication
3 units

The course discusses writing, speaking and presenting to different audiences and for various purposes. It develops students' communicative competence and enhances their cultural and intercultural awareness through multimodal tasks that provide them opportunities for communicating effectively and appropriately to a multicultural audience in a local or global context. It equips students with tools for critical evaluation of a variety of texts and focuses on the power of language and the impact of images to emphasize the importance of conveying messages responsibly. *Pre-req: None; Co-req: None*

GEC073 – Ethics
3 units

This course covers the context and tenets of ethical behavior in modern society including how individuals and communities interact with the environment and other common resources. It helps one to enhance their grasp of ethics and moral reasoning through the study of numerous theoretical viewpoints and moral experiences that make up so much of the core of daily life. By the end of the course, students should be able to articulate why and how people are seen as moral beings existing in a moral universe with a responsibility to protect themselves, one another, and the environment for everyone. *Pre-req: None; Co-req: None*

B. CHED MANDATORY COURSES

RZL023 - Buhay at Mga Akda ni Rizal   3 units
Ito'y isang pag-aaral sa buhay at gawa ni Gat. Jose Rizal at ang kaugnayan at kahalagahan sa nilalaman ng pangkasaysayang pagsulong ng lipunang Pilipino. Gamit ang istratehiyang 'Dambana" kung saan ang mag-aaral ay maglalaan ng panahon sa Bahay-Rizal sa Calamba, ang mag-aaral ay magiging kabahagi ng Rizal Shrine staff sa edukasyong pangkasaysayan ng mga panauhin sa Bahay-Rizal. *Pre-req: None; Co-req: None*

C. FILIPINO COURSES

FIL083 - Komunikasyon sa Akademikong Pilipino   3 units
Ang kursong ito ay isang metalinggwistik na pag-aaral ng wikang Filipino. Nakatuon ito sa estruktura, gamit katangian at kahalagahan ng wikang Filipino sa akademikong larangan. Sa lapit multidisiplinaryo at paraang interaktibo, inaasahang matutukoy at matatalakay ang mga pangunahing kaalaman sa wikang ito. Malilinang dito ang mga kasanayan sa paggamit ng wikang Filipino tungo sa lalong mataas na komunikasyon at sa kritikal na pagdidiskurso. Pre-req: None; Co-req: None

FIL093 - Pagbasa at Pagsulat Tungo sa Pananaliksik   3 units
Tatalakayin sa kursong ito ang higit na pagpapalawak ng kaalaman at lalo pang pagpapataas ng antas ng kasanayan sa kritikal na pagbasa at lohikal na pagsulat tungo sa pagsasagawa ng pananaliksik.
Pre-req: FIL083; Co-req: None

FIL113 - Panitikang Filipino   3 units
Ang kursong ito ay pag-aaral sa iba't ibang anyo ng panitikan/ literatura ng Pilipinas sa pamamagitan ng pagbasa sa ilang tekstong pampanitikan na hango sa iba't ibang rehiyon ng Pilipinas , tatalakayin din ang mahahalagang kaganapan sa iba't ibang panahon ng kasaysayan ng panitikan sa sambayanang Pilipino.
Pre-req: FIL093; Co-req: None

D. PHYSICAL EDUCATION COURSES

PATHFIT1002 - Movement Competency Training   2 units
This course provides training in different movement and core engagement in conjunction with principles of healthy and physical active life. Students will be able to adopt and transfer the movement competency in different contexts. *Pre-req: None; Co-req: None*

PATHFIT2022 - Exercise-Based Fitness   2 units
This course provides experiences in core stability, strength, and mobility training. It includes goal setting exercise progression and regression and periodic assessment for the development of various fitness component. *Pre-req: PATHFIT1002; Co-req: None*

PATHFIT3032 - Individual/Dual Sports   **2 units**

This course puts emphasis on gaining basic knowledge of individual/dual sports, fitness and lifetime activities. It also includes different kinds of individual/dual sports. Students will learn the skills and game strategies for each sport as well as their historical background and terminology. Activities promote participation in physical activity to achieve good health and wellness. *Pre-req: PATHFIT1002, PATHFIT2022; Co-req: None*

PATHFIT4042 - Contemporary Dance   **2 units**

This course provides the students the foundations of contemporary dance technique and execution. It focuses on various movement concepts at each level, particularly designed solos, and the integration of organized improvisation to provide students, the opportunity to explore and come up with their own movement language. It encourages creativity by fusing elements of jazz, modern dance, lyrical dance, classical ballet, and other disciplines. *Pre-req: PATHFIT1002, PATHFIT2022; Co-req: None*

E. NATIONAL SERVICE TRAINING PROGRAM

NSTP1-18 - National Service Training Program 1   **3 units**

The National Service Training Program 1 is a curricular offering consisting of lectures and trainings on citizenship, values education, environment and drug education, disaster management, transformational leadership, dimensions of development and literacy and numeracy skills aimed to empower the youth as potential community leaders toward national developmen*t. Pre-req: None; Co-req: None*

NSTP2-18 - National Service Training Program 2   **3 units**

The National Service Training Program 2 is a sequel to NSTP1. This course is designed to equip the students with the fundamentals of project identifications, planning implementation and evaluation which include but is not limited to lecture and training on social mobilization, community development, and community service. The students are required to undergo the process of community immersion in pursuit of applying the concepts learned in contributing to the general welfare of in the Colegio's partner communities. *Pre-req: NSTP1-18; Co-req: None*

F. INSTITUTIONAL COURSES

RELED051 - The Catholic Christian Faith   **1 unit**
This course presents the overview of the Letran Calamba Religious Education Program and the basics of our Christian Faith. The greater part of the course deals with the study of God's action in salvation history that began in creation (Old Testament), highlighted at the coming of Jesus Christ, and culminates in the consummation of God's creation unto Himself. *Pre-req: None; Co-req: None*

RELED063 - Contemporary Issues in Christian Marriage   **3 units**
The emphasis of the course is on marriage and family, presented as a vocation and a sacrament. The study prepares the students for the reception of the sacrament and achievement of better outlook on the realities and complexities of the married state and family life. *Pre-req: RELED051; Co-req: None*

RELED073 - Contemporary Issues About Church and Human Society with Immersion   **3 units**
This course studies the seven themes of the social teachings of the Catholic Church. It also tackles contemporary social issues, which hamper the development of our country. An integral part of the course is Makipamuhay, a learning strategy that allows students to experience direct contact with the oppressed in society specifically the rural poor and leads them to develop personal as well as communal witnessing to authentic Christian faith. *Pre-req: RELED051; Co-req: None*

II. TECHNICAL COURSES

A. MATHEMATICS

MATH155A - Calculus 1   **5 units**

The course covers the core concepts of limit, continuity and differentiability of functions involving one or more variables, the application of differential calculations in solving problems on optimization, rates of change, related rates, tangent and normal, and approximations, partial differentiation, and transcendental curve tracing. Pre-req: None; Co-req: None

MATH155B - Calculus 2   **5 units**

The course introduces the concept of integration and its application to some physical problems such as evaluation of areas, volumes of revolution, force, and work. The fundamental formulas and various techniques of integration are taken up and applied to both single variable and multi-variable functions.
The course also includes tracing of functions of two variables for a better appreciation of the interpretation of the double and triple integral as volume of a t3ree-dimensional region bounded by two or more surfaces.
Pre-req: MATH155A; Co-req: None

MATH223 - Differential Equations   **3 units**

It covers first order differential equations, nth order linear differential equations and systems of first order linear differential equations. It also introduces the concept of Laplace Transforms in solving differential equations. P*re-req: MATH155B*; *Co-req: None*

MATH323 - Engineering Data Analysis   **3 units**

This course introduces different methods of data collection and the suitability of using a particular method for a given situation, probability distributions of random variables and their uses, linear functions of random variables within the context of their application to data analysis and inference.
 The course also includes estimation techniques for unknown parameters; and hypothesis testing used in making inferences from sample to population; inference for regression parameters and build models for estimating means and predicting future values of key variables under study and statistically based experimental design techniques and analysis of outcomes of experiments with the aid of statistical software. Pre-req: None; Co-req: None

MATH332/331L - Numerical Solutions to CE Problems/ Numerical Solutions to CE Problems Lab
                                                                       2/1 unit

This course covers the concepts of numerical analysis and computer software tools in dealing with civil engineering problems. It includes techniques in finding the rots of an equation, solving systems of linear and non-linear equations, eigenvalue problems, polynomial approximation and interpolation, ordinary and partial differential equations. The Monte-Carlo method, simulation, error propagation and analysis, the methods of least squares and goodness-of-fit tests are also discussed. *Lecture - Pre-req: MATH223; Co-req: MATHECE251L; Laboratory - Pre-req: MATH223; Co-req: MATH332*

B. NATURAL/ PHYSICAL SCIENCES

CHM083/ CHM081L- Chemistry for Engineers/ Chemistry for Engineers Lab　　　　　**3/1 units**
Basic concepts of matter and its classification; mass relationships in chemical reactions; properties of gases, liquids, and solids; concepts of thermochemistry; quantum theory and electronic behavior; periodic relationship of elements in the periodic table; intramolecular forces; and solutions. *Lecture - Pre-req: None; Co-req: CHM081L; Laboratory - Pre-req: None Co-req: CHM083*

PHY083 / PHY081L - Physics for Engineers / Physics for Engineers Lab　　　　　**3/1 units**
Lecture: This course covers vectors; kinematics; dynamics; work, energy, and power; impulse and momentum; rotation; dynamics of rotation; elasticity; and oscillation. Fluids; thermal expansion, thermal stress; heat transfer; calorimetry; waves; electrostatics; electricity; magnetism; optics; image formation by plane and curved mirrors; and image formation by thin lenses.
Laboratory: A fundamental laboratory course designed to provide opportunity to observe and apply the principles and theories taught in the physics. *Lecture -   Pre-req: MATH153A; Co-req: MATH153B, PHY081L; Laboratory - Pre-req: MATH153A; Co-req: MATH153B, PHY083*

C. BASIC ENGINEERING SCIENCES

DRW001L - Engineering Drawing and Plans　　　　　**1 unit**
Practices and techniques of graphical communication; application of drafting instruments, lettering scale, and units of measure; descriptive geometry; orthographic projections; auxiliary views; dimensioning; sectional views; pictorial drawings; requirements of engineering working drawings; and assembly and exploded detailed drawings. *Pre-req: None; Co-req: None*

DRW051L - Computer-Aided Drafting　　　　　**1 unit**
Concepts of computer-aided drafting (CAD); introduction to the CAD environment; terminologies; and the general operating procedures and techniques in entering and executing basic CAD commands. *Pre-req: DRW001L Co-req: None*

CoENG002L - Computer Fundamentals and Programming　　　　　**2 units**
Basic information technology concepts; fundamentals of algorithm development; high-level language and programming applications; computer solutions of engineering problems. *Pre-req: None; Co-req: None*

ENGG003 - Statics of Rigid Bodies　　　　　**3 units**
The course is a basic engineering science of solid mechanics dealing with bodies that are or remain at rest. It is designed to provide fundamental concepts about forces, moments and couples and their systems. The concept of resultants and equilibrium of forces and moments is utilized to enable solution of statically determinate problems. *Pre-req: MATH155B, Phy083, Phy081L; Co-req: None*

ENGG002 - Dynamics of Rigid Bodies　　　　　**2 units**
This course covers the discussion of kinetics and kinematics of a particle; kinetics and kinematics of rigid bodies; work energy method; and impulse and momentum. *Pre-req: ENGG003; Co-req: ENGG064*

ENGG064 - Mechanics of Deformable Bodies · 4 units

This course covers the discussion of axial stress and strain; stresses for torsion and bending; combined stresses; beam deflections; indeterminate beams; and elastic instability. *Pre-req: ENGG003; Co-req: CE022, CE021L, ENGG002*

ENGG112 - Engineering Management · 2 units

This course will discuss the basic engineering management tools and techniques in defining, planning, and monitoring engineering projects, decision-making, the functions of management, managing production and service operations, managing the marketing function, and managing the finance function. *Pre-req: None; Co-req: None*

D. ALLIED COURSES

ENGG253 - Engineering Utilities 1 · 3 units

The course focuses on the environmental systems in buildings. Lecture discussions include building electrical systems, natural and artificial lighting, and building telecommunications. Reducing operational loads and integrating high performance energy systems into buildings offers solutions towards achieving a sustainable and secure energy future. *Pre-req: PHY083, PHY081L; Co-req: ENGG263*

ENGG263 - Engineering Utilities 2 · 3 units

The course focuses on the mechanical systems, fire protection systems, sanitary/ plumbing systems, and acoustics in buildings. Lecture discussions include HVAC systems, acoustics, vertical transportation, and fire protection. Reducing operational loads and integrating high performance energy systems into buildings offers solutions towards achieving a sustainable and secure energy future. *Pre-req: PHY083, PHY081L; Co-req: ENGG253*

E. CIVIL ENGINEERING (STRUCTURAL) PROFESSIONAL COURSES

CE002 - Civil Engineering Orientation · 2 units

The course will discuss the introduction to various tracks of specialization of civil engineering, emphasis on ethics, responsibility, and professionalism. *Pre-req: None; Co-req: None*

CE013/ CE011L - Fundamentals of Surveying /Fundamentals of Surveying Lab · 3/1 units

The course deals with theory and practice of surveying techniques and instruments including tape, compass, transit, theodolite and level; running a traverse and leveling, preparation of plans of survey, and relocation of boundaries. Topographic surveying methods, Global Positioning System location for latitude, longitude, time, and location of shorelines and sounding, measuring velocity and discharge of streams, aerial and satellite surveying. Use of a Global Positioning System in surveying and computer software. *Lecture - Pre-req: DRW001L: Co-req: CE011L; Laboratory - Pre-req: DRW001L; Co-req: CE013*

ENGG103 - Engineering Economics · 3 units

The course focuses on concepts of the time value of money and equivalence; basic economy study methods; decisions under certainty; decisions recognizing risk; and decisions admitting uncertainty
Pre-req: None; Co-req: None

CE113/CE111L - Geotechnical Engg 1-Soil Mechanics/ Geotechnical Engg 1-Soil Mechanics Lab
3/1 units

This course deals with the study of the identification and classification of soils and rocks, Site investigation and subsurface exploration, the physical and index properties of soil, compaction, water flow through soils, subsurface stress and deformation phenomena in soils, laboratory testing, and the relevance of these topics as they affect soil strength, compressibility, stability, and drainage. A thorough knowledge of engineering geology and the mechanics of deformable bodies is imperative. *Lecture - Pre-req: CE033, CE031L, ENGG064, GEO012; Co-req: CE111L; Laboratory - Pre-req: CE033, CE031L, ENGG064, GEO012; Co-req: CE113*

CE033/031L - Structural Theory / Structural Theory Lab
3/1 unit

The course covers the different types of structural systems, loads and its combinations and placement, applicable codes and specifications, and methods of analysis for statically determinate structures. The course covers the theory of structures analysis as applied to indeterminate structures such as indeterminate beams, planar and space frames, and trusses subject to static loads; method of consistent deformation; three-moment equation; slope-deflection method; moment distribution; energy methods, matrix methods; and approximate method of analysis. *Lecture - Pre-req: ENGG002, ENGG064; Co-req: CE031L; Lab - Pre-req: ENGG002, ENGG064; Co-req: CE033*

CE073/071L - Principles of Reinforced/ Prestressed Concrete/ Principles of Reinforced/ Prestressed Concrete Lab
3/1 unit

This course is concerned with the design, applications and code specifications used in structural reinforced concrete members subjected to flexure *(beams, girders, joists, lintels, girts, etc.),* tension, and compression members *(columns),* combined stressed members *(beam-columns),* beam-column connections using the *Elastic Limit Method*, also known as the Alternate Stress Design (ASD) or Working Stress Design (WSD), and the *Plastic Limit Method* or the Ultimate Strength Design (USD). Applications and specifications as applied to buildings, bridges, and other reinforced concrete structures are also given emphasis. A thorough knowledge and proficiency in Structural Theory is imperative. **(Principles of Reinforced)**

This course is concerned with the elastic and ultimate strength analysis and design of prestressed concrete structures. The course covers the calculations of stresses due to bending, shear, torsion and anchorages, losses of prestresses and deflections. Behavior of statically indeterminate prestressed concrete beams is also studied. **(Prestressed Concrete)**

Lecture - Pre-req: CE033, CE031L; Co-req: CE071L; Laboratory - Pre-req: CE033, CE031L; Co-req: CE073

CE102 - CE Laws, Ethics, and Contracts
2 units

This course deals on the principles and fundamentals of the laws on obligations, contracts, and professional ethics that are applicable to the civil engineering profession. It is designed to prepare civil engineering students for professional practice. Topics on the perspective of the student as future practitioners, contractors, and employees in the field are also given emphasis. They include the study of code of ethics, legal procedure in the practice of civil engineering in the Philippines, ethical relations of an engineer with fellow professionals, clients, and general public, elements of contracts, obligations, Civil Engineering Law (RA 544) National Building Code, Labor Laws, E-Procurement Law, and the Manual of Professional Practice for Civil Engineers. *Pre-req: CE-PRC, CE-PRC-L; Co-req: None*

CE153 - Construction Methods and Project Management   3 units

The course deals with the principles of construction methods and equipment, management and their applications. It covers project planning, scheduling, monitoring and control. It also includes concepts on organization, safety, information systems and computer applications. Students are given opportunities to visit actual project sites and observe the application of these theories in construction projects. *Pre-req: CE-PRC, CE-PRC-L; Co-req: None*

CE022/021L - Construction Materials and Testing/ Construction Materials and Testing Lab

2/1 units

The course deals with the physical properties of common construction materials primarily metals, plastics, wood, concrete, coarse and fine aggregates, asphalt, and synthetic materials; examination of material properties with respect to design and use of product, design and control of aggregates, concrete and asphalt mixtures, principle of testing; characteristics of test; properties of materials and materials testing equipment. *Lecture - Pre-req: ENGG003, Co-req: CE021L, ENGG064, Laboratory - Pre-req: ENGG003, Co-req: CE022, ENGG064*

CE082 - Hydrology   2 units

This course is concerned with the discussion of Hydrologic cycle; occurrence and analysis of components of hydrologic cycle such as precipitation, evapotranspiration, infiltration, stream flow and ground water; river and reservoir sedimentation; flood routing techniques; probability analysis for hydrologic design; computer modeling for hydrologic systems. *Pre-req: ENGG002, ENGG064; Co-req: CE094, CE091L*

CE094/091L – Hydraulics/ Hydraulics Lab   4/1 units

This course deals with the analysis and hydraulic design of by systems such as reservoirs dams, spillways, gates, open channels, pipe networks, pumps, and turbines; sediment transport in rivers and reservoir; computer hydraulic modeling. *Lecture - Pre-req: ENGG002, ENGG064; Co-req: CE082; Laboratory - Pre-req: ENGG002, ENGG064; Co-req: CE082*

CE062/061L - Principles of Steel Design/ Principles of Steel Design Lab   2/1 units

This course is also concerned with the design of structural steel members subjected to flexure *(beams, girders, joists, lintels, girts, etc.),* tension, and compression members *(columns),* combined stressed members *(beam-columns),* riveted, welded, and bolted connections using the *Elastic Limit Method*, also known as the Allowable Stress Design (ASD), and the *Plastic Limit Method*. The course also deals with an introduction to *the Load Resistance Factor Design Method* (LRFD) in designing structural steel. Applications and specifications as applied to buildings, bridges, and other steel structures are also given emphasis. A thorough knowledge and proficiency in Structural Theory is imperative. *Lecture - Pre-req: CE073, CE071L; Co-req CE061L, CE-SP1, CE-SP2; Laboratory – Pre-req: CE073, CE071L; Co-req: CE062, CE-SP1, CE-SP2*

CE052/ CE051L - Building Systems Design / Building Systems Design Lab   2/1 units

A study on building parts and its construction, i.e. from the foundation to the roofing. Study of the National Building Code and other pertinent codes. A practical subject that will develop in the student the skills required in building design and construction. This includes interpretation of building plans and actual observation and study. *Lecture - Pre-req: DRW051L; Co-req: CE051L; Laboratory - Pre-req: DRW051L; Co-req: CE052*

CE-PJ1/L - CE Project 1   1/1 unit

Lecture: Pre-req: CE073, CE071L, CE094, CE091L, CE123, Co-req: CE-PJ1-L; Laboratory - Pre-req: CE073, CE071L, CE094, CE091L, CE123; Co-req: CE-PJ1

CE-PJ2/L - CE Project 2   1/1 unit

A *project study* presents the highlights, descriptive definition, long—range objectives, feasibility criteria, history, and basic conclusions of the project under study. It gives the analyst and the financier a view of the whole object It also presents a comprehensive description of the business and its operations and briefly defines the product lines of the business. Major findings on the market, technical, financial, socio-economic, and management feasibility of the project are included in a project study. A practice-oriented design project must integrate the various fields in the field of civil engineering work. Students shall operate in-groups and complete a study for a typical engineering undertaking. *Lecture: Pre-req: CE-PJ1, CE-PJ1-L; Co-req: CE-PJ2-L; Laboratory - Pre-req: CE-PJ1,CE-PJ1-L; Co-req: CE-PJ2*

CE043 - Highway and Railroad Engineering   3 units

This course is intended to provide the fundamentals of highway design and operation, human factors and vehicular characteristics and how they interact with the roadway, and highway safety analysis and different statistical techniques employed in the analysis.. *Pre-req: ENGG003, CE013, CE011L; Co-req: None*

CE123 - Principles of Transportation Engineering   3 units

Urban transportation planning process, design of urban transportation models including trip generation; urban transit planning and Operations; Transportation Demand Analysis; Transportation Project Evaluation. This course is directed to the overall design of transportation systems. Emphasis will be upon the principles of systems analysis as they relate to the planning, design, operation, and evaluation of transportation systems. The central feature of the course is a project and/or a seminar delivery to be coordinated with class activities. *Pre-req: CE043; Co-req: None*

CE131/131L - Quantity Surveying / Quantity Surveying Lab   1/1 unit

This course provides a basic understanding of the methods used to prepare a building and/or bridge construction cost estimate, earthwork costs based on project drawing plans and specifications. *Lecture - Pre-req: CE052, CE051;, Co-req: CE131L; Laboratory - Pre-req: CE052, CE051L; Co-req: CE131*

GEO012 - Geology for Civil Engineers   2 units

The course topics include rock and mineral types, soil properties, rock mechanics, geologic structures, active tectonics and earthquake hazards, slope stability and landslides, groundwater, rivers, and flood hazards. Team projects include engineering geology case studies and site assessment investigations. *Pre-req: CHM083, CHM081L; Co-req: None*

CE-PRC/CE-PRC-L – On-the-Job Training (300 hrs) / On-the-Job Training Lab   2/1 units

This course will provide actual training under the close supervision of Managers or Civil Engineers in the field, office, or laboratory, as well as training in civil engineering assignments of moderate complexity and responsibility at the Assistant Civil Engineer level. *Lecture - Pre-req: CE062, CE113; Co-req CE-PRC-L; Laboratory – Pre-req: CE062, CE113, co-req CE-PRC*

F. SPECIALIZATION COURSES

CE-SP1* – CE Specialized Course 1 (Reinforced Concrete Design)   3 units
A specialized professional course for civil engineering students in structural engineering designed to enable the design of reinforced concrete structures. *Pre-req: CE073, CE071L; Co-req: CE062, CE061L*

CE-SP2* – CE Specialized Course 2 (Earthquake Engineering)   3 units
A specialized professional course for civil engineering students in structural engineering designed to understand the theoretical, practical, and computational aspects of the earthquake excitation in relation to structural design. *Pre-req: CE073, CE071L; Co-req: CE062, CE061L*

CE-SP3* – CE Specialized Course 3 (Design of Steel Structures)   3 units
A specialized professional course for civil engineering students in structural engineering designed to enable the design of steel structures. *Pre-req: CE073, CE071L; Co-req: None*

CE-SP4* – CE Specialized Course 4 (Computer Software In Structural Analysis)   3 units
A specialized professional course for civil engineering students in structural engineering aimed at introducing to them the state-of-the-art computer tools in structural analysis that are available in the market. *Pre-req: CE062, CE061L; Co-req: None*

CE-SP5* – CE Specialized Course 5 (Bridge Engineering)   3 units
A specialized professional course for civil engineering students in structural engineering designed to understand the concepts, theories, and principles in the design process of bridge structures. *Pre-req: CE062, CE061L, CE073, CE071L; Co-req: None*

CE-ST112 – Special Topics for CE   12 units
This is a review course that will discuss all basic engineering, mathematics, and civil engineering subjects for the preparation for taking the Civil Engineering Licensure Exam (CELE). *Pre-req: CE-SP3, CE-SP4; Co-req: None*

G. LETRAN THRUST COURSES

LQEC763 – Letran Quality Enhancement Course 76   3 units
Pre-req: None; Co-req: None

LQEC773 – Letran Quality Enhancement Course 77   3 units
Pre-req: LQEC763; Co-req: None

LQEC783 – Letran Quality Enhancement Course 78   3 units
Pre-req: LQEC773; Co-req: None

PROGRAM DESCRIPTION

Architecture is the art and science of designing buildings. It is a process and a product of ideation, planning, designing and constructing buildings and other structure. It involves the study of natural environment and its effect to the built-environment, providing enhanced space for human activity that also reflects culture and traditions. The architecture practice is employed to attain practical and expressive requirements, that both satisfy functionality, aesthetic and structural integrity.

The Bachelor of Science in Architecture program covers various topics such as history, theory, technical and professional courses that are organized to develop student knowledge and skills. The program trains its student to be globally competitive architects that will help in producing enhanced physical environment. In addition, students are exposed to different computer programs that enable them to formulate and produce complex design and innovative interventions in architecture.

Graduates of the architecture program may involve themselves and have a career in various industries such as housing and real estate development, construction management, project management, physical planning and urban design; a career in research and development in architecture, restoration and conservation of buildings and architectural interiors, building administration and maintenance. Graduates of the program are critical thinkers that are ready to contribute to the built environment with their innovative and sustainable architectural interventions.

Program Educational Objectives

Three to five years after graduation, the BS Architecture (BSARCHI) alumni shall:
1. Advance their practice in the field of Architecture;
2. Assume at least a supervisory position in the same or related field of endeavor;
3. Manifest proper ethical principles and values founded in Filipino, Dominican and Christian orientation;
4. Contribute goodwill in the country and other nations; and
5. Pursue advanced education and professional training activities to become world class professionals.

Program Outcomes and Performance Indicators

Upon completion of BS Architecture (BSARCHI), the graduate, who is trained in a culture of conscience and excellence with Filipino, Dominican, and Christian in orientation, must be able to:

Program Outcomes	Performance Indicators
1. Articulate and discuss the latest developments in the specific field of practice and demonstrate a service orientation in one's profession	• Engage in continual learning and service in one's specialization
2. Preserve and promote Filipino historical and cultural heritage (based on RA No. 7722)	• Demonstrate responsible Filipino citizenship in local, national or international communities

3. Participate in various types of employment, development activities, and public discourses, particularly in response to the needs of the communities one serves	• Plan and take action for the welfare of the community • Continually engage oneself in development projects and activities that address the community needs
4. Manifest strong commitment and conviction to the Christian and Dominican teachings and philosophy in thoughts, words, and deeds	• Observe the Dominican values of study, prayer, community, and service • Uphold ecological consciousness and engage in environmental stewardship
5. Manifest competencies supporting national, regional and local development plans	• Use appropriate technique/s that can be applied in developing a project for national, regional, or local consumption. • Perform preliminary and detailed design that satisfies all the requirements, maximizing the resources available. • Develop technology-based project for national, regional, or local consumption.
6. Effectively communicate orally and in writing using English, Filipino, mother tongue language, and an appropriate Foreign Language required by the industry	• Express oneself clearly in verbal or written forms the updates in one's career or vocation • Organize presentations/reports in well-structured logical sequence, making it easy for the audience/reader to follow the content clearly. • Convey positive Filipino values in one's decisions and actions

	- Present a proposed solution in class or in a public forum - Defend satisfactorily his/her thesis/design project from a panel of experts
7. Creation of architectural solutions by applying knowledge in history, theory, planning, building technology and utilities, structural concepts and professional practice	- Ability to conceptualize design development outputs; Assess the client's needs, opportunities and constraints - Develop or review client's design standards - Develop or review master plan - Perform site analysis - Assess environmental, social, and economic conditions related to project.
8. Use of concepts and principles from specialized fields and allied disciplines into various architectural problems.	- Ability to incorporate specialized fields and allied disciplines in the preparation of contract documents - Analyze and design basic structural elements and systems - Coordinate building systems (e.g. structural, mechanical, electrical, fire safety, security, telecommunications/data) and reconcile system's conflict - Apply sustainable design principles

9. Preparation of contract documents, technical reports and other legal documents used in architectural practice adhering to applicable laws, standards and regulations	• Ability to prepare complete sets of contract documents • Perform code analysis (e.g. building, energy, accessibility) • Research, select and specify materials
10. Interpretation and application of relevant laws, codes, charters and standards of architecture and the built environment	• Ability to apply relevant laws, codes, charters and standards of architecture and the built environment in the preparation of contract documents • Perform code analysis (e.g. building, energy, accessibility) • Review project with code officials • Submit documents to approval agencies and obtain approvals
11. Application of research methods to address architectural problems	• Ability to relate results of research in architectural design • Able to present and defend the research output.
12. Use of various information and communication technology (ICT) media for architectural solutions, presentation, and techniques in design and construction	• Ability to use multimedia techniques
13. Acquisition of entrepreneurial and business acumen relevant to Architecture practice	• Understand architectural office processes/ practices • Ability to prepare basic feasibility studies

	Manage project revenues and expenses
	• Manage project revenues and expenses • Negotiate and establish fees for basic and additional services and reimbursable expenses. • Able to understand and monitor the performance of project milestones and operational targets.
14. Involvement in the management of the construction works and Building administration.	• Ability to assist in the construction supervision works\ • Perform or review a feasibility study to determine the cost and/or technical advisability of the proposed project
15. An ability to participate in various types of employment, development activities, and public discourses particularly in response to the needs of the community	• Plan and take action for the welfare of the community • Continually engage oneself in development projects and activities that address the community needs

BACHELOR OF SCIENCE IN ARCHITECTURE
GENERAL SUMMARY OF COURSES

I. TECHNICAL COURSES

A. Mathematics   5

MATH183	Differential and Integral Calculus	3
MATH212	Solid Mensuration	2

B. Basic Engineering Courses   18

ENGG003	Statics of Rigid Bodies	3
ENGG063A	Strength of Materials	3
ENGG272	Surveying	2
ENGG271L	Surveying Lab	1
ENGG283	Theory of Structures	3
ENGG293	Steel and Timber Design	3
ENGG303	Architectural Structures	3

C. Allied Courses   12

ARCHI021	Archi Vis Com 1 - Graphics 1	1
ARCHI022L	Archi Vis Com 1 - Graphics 1 Lab	2
ARCHI041	Archi Vis Com 2 - Visual Techniques 1	1
ARCHI041L	Archi Vis Com 2 - Visual Techniques 1 Lab	1
ARCHI061	Archi Vis Com 3 - Graphics 2	1
ARCHI062L	Archi Vis Com 3 - Graphics 2 Lab	2
ARCHI081	Archi Vis Com 4 - Visual Techniques 2	1
ARCHI081L	Archi Vis Com 4 - Visual Techniques 2 Lab	1
ARCHI101	Archi Vis Com 5 - Visual Techniques 3	1
ARCHI101L	Archi Vis Com 5 - Visual Techniques 3 Lab	1

D. Professional Courses   111

ARCHI011	Archi Dsgn 1 - Introduction to Design	1
ARCHI011L	Archi Dsgn 1 - Introduction to Design Lab	1
ARCHI031	Theory of Architecture 1	1
ARCHI031L	Theory of Architecture 1 Lab	1
ARCHI051	Archi Dsgn 2 - Creative Design Fundamentals	1
ARCHI051L	Archi Dsgn 2 - Creative Design Fundamentals Lab	1
ARCHI072	Theory of Architecture 2	2
ARCHI091	Archi Dsgn 3 - Creative Design in Architectural Interiors	1
ARCHI092L	Archi Dsgn 3 - Creative Design in Architectural Interiors Lab	2
ARCHI113	Bldg Tech 1 - Building Materials	3
ARCHI121	Architectural Interiors	1
ARCHI121L	Architectural Interiors Lab	1
ARCHI132	History of Architecture 1	2
ARCHI141	Archi Dsgn 4 - Space Planning 1	1

ARCHI142L	Archi Dsgn 4 - Space Planning 1 Lab	2
ARCHI152	Bldg Tech 2 - Construction Drawings in 1-Storey Building	2
ARCHI151L	Bldg Tech 2 - Construction Drawings in 1-Storey Building Lab	1
ARCHI162	Bldg Util 1 - Plumbing and Sanitary Systems	2
ARCHI161L	Bldg Util 1 - Plumbing and Sanitary Systems Lab	1
ARCHI172	Tropical Design	2
ARCHI182	History of Architecture 2	2
ARCHI191	Archi Dsgn 5 - Space Planning 2	1
ARCHI193L	Archi Dsgn 5 - Space Planning 2 Lab	3
ARCHI202	Bldg Tech 3 - Construction Drawings in 2-Storey Building	2
ARCHI201L	Bldg Tech 3 - Construction Drawings in 2-Storey Building Lab	1
ARCHI212	Bldg Util 2 - Electrical, Electronics, and Mechanical Systems	2
ARCHI211L	Bldg Util 2 - Electrical, Electronics, and Mechanical Systems Lab	1
ARCHI222	History of Architecture 3	2
ARCHI233	Prof Prac 1 - Laws Affecting the Practice of Architecture	3
ARCHI241	CADD for Architecture 1	1
ARCHI241L	CADD for Architecture 1 Lab	1
ARCHI251	Archi Dsgn 6 - Site Development Planning and Landscaping	1
ARCHI253L	Archi Dsgn 6 - Site Development Planning and Landscaping Lab	3
ARCHI262	Bldg Tech 4 - Specification Writing and Quantity Surveying	2
ARCHI261L	Bldg Tech 4 - Specification Writing and Quantity Surveying Lab	1
ARCHI272	Bldg Util 3 - Acoustics and Lighting Systems	2
ARCHI271L	Bldg Util 3 - Acoustics and Lighting Systems Lab	1
ARCHI282	History of Architecture 4	2
ARCHI293	Prof Prac 2 - Administering the Regular Services of the Architecture	3
ARCHI303	Plan 1 - Site Planning and Landscape Architecture	3
ARCHI311	CADD for Architecture 2	1
ARCHI311L	CADD for Architecture 2 Lab	1
ARCHI321	Archi Dsgn 7 - Community Architecture and Urban Design	1
ARCHI324L	Archi Dsgn 7 - Community Architecture and Urban Design Lab	4
ARCHI332	Bldg Tech 5 - Alternative Building Construction Systems	2
ARCHI331L	Bldg Tech 5 - Alternative Building Construction Systems Lab	1
ARCHI343	Plan 2 - Fundamentals of Urban Design and Community Architecture	3
ARCHI351	Archi Dsgn 8 - Design of Complex Structures	1
ARCHI354L	Archi Dsgn 8 - Design of Complex Structures Lab	4
ARCHI363	Plan 3 - Introduction to Urban and Regional Planning	3
ARCHI373	Prof Prac 3 - Global Practice for the 21st Century	3
ARCHI383	Research Methods for Architecture	3
ARCHI392	Housing	2
ARCHI403	Business Management and Application for Architecture 1	3
ARCHI411	Archi Dsgn 9 - Thesis Research Writing	1

ARCHI414L	Archi Dsgn 9 - Thesis Research Writing Lab	4	
ARCHI423	Business Management and Application for Architecture 2	3	
ARCHI431	Archi Dsgn 10 - Thesis Research Application	1	
ARCHI434L	Archi Dsgn 10 - Thesis Research Application Lab	4	

E. Specialization Courses — 9

ARCHI-SP1	Specialization Course 1	3
ARCHI-SP2	Specialization Course 2	3
ARCHI-SP3	Specialization Course 3	3

II. NON-TECHNICAL COURSES

A. General Education Courses — 24

GEC003	Understanding the Self	3
GEC013	Science, Technology and Society	3
GEC023	Mga Babasahín Hinggil sa Kasaysayan ng Pilipinas	3
GEC033	Mathematics in the Modern World	3
GEC043	The Contemporary World	3
GEC053	Art Appreciation	3
GEC063	Purposive Communication	3
GEC073	Ethics	3

B. Mandated Courses — 3

| RZL023 | Buhay at Mga Akda ni Rizal | 3 |

C. Filipino Courses — 9

Fil083	Komunikasyon sa Akademikong Filipino	3
Fil093	Pagbasa at Pagsulat Tungo sa Pananaliksik	3
FIL113	Panitikang Filipino	3

D. Physical Education Courses — 8

PATHFIT1002	Movement Competency Training	2
PATHFIT2022	Exercise Based Fitness Activities	2
PATHFIT3032	Individual/Dual Sports	2
PATHFIT4042	Contemporary Dance	2

E. National Service Training Program — 6

| NSTP1-18 | National Service Training Program 1 | 3 |
| NSTP2-18 | National Service Training Program 2 | 3 |

F. Institutional Courses — 19

LQEC823	Letran Quality Enrichment Course 82	3
LQEC833	Letran Quality Enrichment Course 83	3
LQEC843	Letran Quality Enrichment Course 84	3
LQEC853	Letran Quality Enrichment Course 85	3
RELED051	The Catholic Christian Faith	1
RELED063	Contemporary Issues in Christian Marriage	3
RELED073	Contemporary Issues about Church and Human Society with Immersion	3

TOTAL UNITS **224**

BACHELOR OF SCIENCE IN ARCHITECTURE
Curriculum Year 2022-2023

COURSE CODE	COURSE TITLE	Lec Units/Hours	Lab Units	Hrs	TOTAL	PRE-REQUISITES/ CO-REQUISITES
FIRST YEAR, First Semester						
ARCHI011	Archi Dsgn 1 - Introduction to Design	1			1	co-req ARCHI011L
ARCHI011L	Archi Dsgn 1 - Introduction to Design Lab		1	3	1	co-req ARCHI011
ARCHI021	Archi Vis Com 1 - Graphics 1	1			1	co-req ARCHI022L
ARCHI022L	Archi Vis Com 1 - Graphics 1 Lab		2	6	2	co-req ARCHI021
ARCHI031	Theory of Architecture 1	1			1	co-req ARCHI031L
ARCHI031L	Theory of Architecture 1 Lab		1	3	1	co-req ARCHI031
ARCHI041	Archi Vis Com 2 - Visual Techniques 1	1			1	co-req ARCHI041L
ARCHI041L	Archi Vis Com 2 - Visual Techniques 1 Lab		1	3	1	co-req ARCHI041
ARCHI132	History of Architecture 1	2			2	
GEC013	Science, Technology and Society	3			3	
MATH212	Solid Mensuration	2			2	
NSTP1-18	National Service Training Program 1	3			3	
PATHFIT1002	Movement Competency Training	2			2	
RELED051	The Catholic Christian Faith	1			1	
	Total	**17**	**5**	**15**	**22**	
FIRST YEAR, Second Semester						
ARCHI051	Archi Dsgn 2 - Creative Design Fundamentals	1			1	ARCHI011, ARCHI011L, ARCHI031, co-req ARCHI051L
ARCHI051L	Archi Dsgn 2 - Creative Design Fundamentals Lab		1	3	1	ARCHI011, ARCHI011L, ARCHI031L, co-req ARCHI051
ARCHI061	Archi Vis Com 3 - Graphics 2	1			1	ARCHI021, ARCHI022L, co-req ARCHI062L
ARCHI062L	Archi Vis Com 3 - Graphics 2 Lab		2	6	2	ARCHI021, ARCHI022L, co-req ARCHI061
ARCHI072	Theory of Architecture 2	2			2	ARCHI031, ARCHI031L
ARCHI081	Archi Vis Com 4 - Visual Techniques 2	1			1	ARCHI041, ARCHI041L, co-req ARCHI081L
ARCHI081L	Archi Vis Com 4 - Visual Techniques 2 Lab		1	3	1	ARCHI041, ARCHI041L, co-req ARCHI081
ARCHI113	Bldg Tech 1 - Building Materials	3			3	ARCHI031, ARCHI031L
ARCHI121	Architectural Interiors	1			1	ARCHI031, ARCHI031L, co-req ARCHI121L
ARCHI121L	Architectural Interiors Lab		1	3	1	ARCHI031, ARCHI031L, co-req ARCHI122
Fil083	Komunikasyon sa Akademikong Filipino	3			3	
GEC073	Ethics	3			3	
MATH183	Differential and Integral Calculus	3			3	MATH212
NSTP2-18	National Service Training Program 2	3			3	NSTP1-18
PATHFIT2022	Exercise-Based Fitness	2			2	PATHFIT1002
	Total	**23**	**5**	**15**	**28**	
SECOND YEAR, First Semester						
ARCHI091	Archi Dsgn 3 - Creative Design in Architectural Interiors	1			1	ARCHI051, ARCHI051L, ARCHI072, co-req ARCHI092L
ARCHI092L	Archi Dsgn 3 - Creative Design in Architectural Interiors Lab		2	6	2	ARCHI051, ARCHI051L, ARCHI072, co-req ARCHI091
ARCHI101	Archi Vis Com 5 - Visual Techniques 3	1			1	ARCHI081, ARCHI081L, co-req ARCHI101L
ARCHI101L	Archi Vis Com 5 - Visual Techniques 3 Lab		1	3	1	ARCHI081, ARCHI081L, co-req ARCHI101
ARCHI162	Bldg Util 1 - Plumbing and Sanitary Systems	2			2	ARCHI113, co-req ARCHI161L
ARCHI161L	Bldg Util 1 - Plumbing and Sanitary Systems Lab		1	3	1	ARCHI113, co-req ARCHI162
ARCHI172	Tropical Design	2			2	ARCHI113
ARCHI182	History of Architecture 2	2			2	ARCH132
Fil093	Pagbasa at Pagsulat Tungo sa Pananaliksik	3			3	Fil083
GEC033	Mathematics in the Modern World	3			3	
LQEC823	Letran Quality Enrichment Course 82	3			3	
PATHFIT3032	Individual/Dual Sports	2			2	PATHFIT1002, PATHFIT2022

_____ RELED063	Contemporary Issues in Christian Marriage	3			3	RELED051
	Total	**22**	**4**	**12**	**26**	

SECOND YEAR, Second Semester

_____ ARCHI141	Archi Dsgn 4 - Space Planning 1	1			1	ARCHI091, ARCHI092L, co-req ARCHI142L
_____ ARCHI142L	Archi Dsgn 4 - Space Planning 1 Lab		2	6	2	ARCHI091, ARCHI092L, co-req ARCHI141
_____ ARCHI152	Bldg Tech 2 - Construction Drawings in 1-Storey Building	2			2	ARCHI113, co-req ARCHI151L
_____ ARCHI151L	Bldg Tech 2 - Construction Drawings in 1-Storey Building Lab		1	3	1	ARCHI113, co-req ARCHI152
_____ ARCHI222	History of Architecture 3	2			2	ARCHI182
_____ ENGG003	Statics of Rigid Bodies	3			3	MATH183
_____ ENGG272	Surveying	2			2	MATH183, co-req ENGG271L
_____ ENGG271L	Surveying Lab		1	3	1	MATH183, co-req ENGG272
_____ FIL113	Panitikang Filipino	3			3	FIL093
_____ PATHFIT4042	Contemporary Dance	2			2	PATHFIT1002, PATHFIT2022
_____ RELED073	Contemporary Issues about Church and Human Society with Immersion	3			3	RELED051
	Total	**18**	**4**	**12**	**22**	

Note: Certificate in Drafting Technology shall be granted upon completion of all professional courses from 1st year-1st semester to 2nd year-2nd semester.

THIRD YEAR, First Semester

_____ ARCHI191	Archi Dsgn 5 - Space Planning 2	1			1	ARCHI141, ARCHI142L, co-req ARCHI193L
_____ ARCHI193L	Archi Dsgn 5 - Space Planning 2 Lab		3	9	3	ARCHI141, ARCHI142L, co-req ARCHI191
_____ ARCHI202	Bldg Tech 3 - Construction Drawings in 2-Storey Building	2			2	ARCHI152, ARCHI151L, co-req ARCHI201L
_____ ARCHI201L	Bldg Tech 3 - Construction Drawings in 2-Storey Building Lab		1	3	1	ARCHI152, ARCHI151L, co-req ARCHI202
_____ ARCHI212	Bldg Util 2 - Electrical, Electronics, and Mechanical Systems	2			2	ARCHI162, ARCHI161L, co-req ARCHI211L
_____ ARCHI211L	Bldg Util 2 - Electrical, Electronics, and Mechanical Systems Lab		1	3	1	ARCHI162, ARCHI161L, co-req ARCHI212
_____ ARCHI241	CADD for Architecture 1	1			1	ARCHI141, ARCHI142L, ARCHI162, ARCHI161L, co-req ARCHI241L
_____ ARCHI241L	CADD for Architecture 1 Lab		1	3	1	ARCHI141, ARCHI142L, ARCHI162, ARCHI161L, co-req ARCHI241
_____ ARCHI282	History of Architecture 4	2			2	ARCHI222
_____ ENGG063A	Strength of Materials	3			3	ENGG272, ENGG271L
_____ GEC023	Mga Babasahín Hinggil sa Kasaysayan ng Pilipinas	3			3	
_____ LQEC833	Letran Quality Enrichment Course 83	3			3	LQEC823
_____ RZL023	Buhay at Mga Akda ni Rizal	3			3	
	Total	**20**	**6**	**18**	**26**	

THIRD YEAR, Second Semester

_____ ARCHI233	Prof Prac 1 - Laws Affecting the Practice of Architecture	3			3	ARCHI141, ARCHI142L
_____ ARCHI251	Archi Dsgn 6 - Site Development Planning and Landscaping	1			1	ARCHI191, ARCHI193L, co-req ARCHI253L
_____ ARCHI253L	Archi Dsgn 6 - Site Development Planning and Landscaping Lab		3	9	3	ARCHI191, ARCHI193L, co-req ARCHI251
_____ ARCHI262	Bldg Tech 4 - Specification Writing and Quantity Surveying	2			2	ARCHI202, ARCHI201L, co-req ARCHI261L
_____ ARCHI261L	Bldg Tech 4 - Specification Writing and Quantity Surveying Lab		1	3	1	ARCHI202, ARCHI201L, co-req ARCHI262
_____ ARCHI272	Bldg Util 3 - Acoustics and Lighting Systems	2			2	ARCHI212, ARCHI211L, co-req ARCHI271L
_____ ARCHI271L	Bldg Util 3 - Acoustics and Lighting Systems Lab		1	3	1	ARCHI212, ARCHI211L, co-req ARCHI272
_____ ARCHI303	Plan 1 - Site Planning and Landscape Architecture	3			3	ARCHI191, ARCHI193L
_____ ARCHI311	CADD for Architecture 2	1			1	ARCHI241, ARCHI241L, co-req ARCHI311L
_____ ARCHI311L	CADD for Architecture 2 Lab		1	3	1	ARCHI241, ARCHI241L, co-req ARCHI311
_____ ENGG283	Theory of Structures	3			3	ENGG063A
_____ GEC043	The Contemporary World	3			3	
	Total	**18**	**6**	**18**	**24**	

Note: Certificate in Computer-Aided Design and Drafting shall be granted upon completion of all professional courses from 1st year-1st semester to 3rd year-2nd semester.

FOURTH YEAR, First Semester

_____ ARCHI293	Prof Prac 2 - Administering the Regular Services of the Architecture	3			3	ARCHI233
_____ ARCHI321	Archi Dsgn 7 - Community Architecture and Urban Design	1			1	ARCHI251, ARCHI253L, co-req ARCHI324L

	Code	Course Title	Lec	Lab	Hrs	Units	Prerequisites
____	ARCHI324L	Archi Dsgn 7 - Community Architecture and Urban Design Lab		4	12	4	ARCHI251, ARCHI253L, co-req ARCHI321
____	ARCHI332	Bldg Tech 5 - Alternative Building Construction Systems	2			2	ARCHI262, ARCHI261L, co-req ARCHI331L
____	ARCHI331L	Bldg Tech 5 - Alternative Building Construction Systems Lab		1	3	1	ARCHI262, ARCHI261L, co-req ARCHI332
____	ARCHI343	Plan 2 - Fundamentals of Urban Design and Community Architecture	3			3	ARCHI303
____	ENGG293	Steel and Timber Design	3			3	ENGG283
____	GEC003	Understanding the Self	3			3	
____	GEC063	Purposive Communication	3			3	
____	LQEC843	Letran Quality Enrichment Course 84	3			3	LQEC833
		Total	**21**	**5**	**15**	**26**	

Note: Certificate in Building Technology and Utilities shall be granted upon completion of all professional courses from 1st year-1st semester to 4th year-1st semester.

FOURTH YEAR, Second Semester

	Code	Course Title	Lec	Lab	Hrs	Units	Prerequisites
____	ARCHI351	Archi Dsgn 8 - Design of Complex Structures	1			1	ARCHI321, ARCHI324L, co-req ARCHI354L
____	ARCHI354L	Archi Dsgn 8 - Design of Complex Structures Lab		4	12	4	ARCHI321, ARCHI324L, co-req ARCHI351
____	ARCHI363	Plan 3 - Introduction to Urban and Regional Planning	3			3	ARCHI343
____	ARCHI373	Prof Prac 3 - Global Practice for the 21st Century	3			3	ARCHI293
____	ARCHI383	Research Methods for Architecture	3			3	ARCHI321, ARCHI324L, GEC063
____	ARCHI-SP1	Specialization Course 1	3			3	ARCHI321, ARCHI324L
____	ENGG303	Architectural Structures	3			3	ENGG293
____	GEC053	Art Appreciation	3			3	
		Total	**19**	**4**	**12**	**23**	

FIFTH YEAR, First Semester

	Code	Course Title	Lec	Lab	Hrs	Units	Prerequisites
____	ARCHI392	Housing	2			2	ENGG303
____	ARCHI403	Business Management and Application for Architecture 1	3			3	co req ARCHI-SP2
____	ARCHI411	Archi Dsgn 9 - Thesis Research Writing	1			1	ARCHI351, ARCHI354L, co-req ARCHI414L
____	ARCHI414L	Archi Dsgn 9 - Thesis Research Writing Lab		4	12	4	ARCHI351, ARCHI354L, co-req ARCHI411
____	ARCHI-SP2	Specialization Course 2	3			3	ARCHI-SP1, co req ARCHI403
____	LQEC853	Letran Quality Enrichment Course 85	3			3	LQEC843
		Total	**12**	**4**	**12**	**16**	

FIFTH YEAR, Second Semester

	Code	Course Title	Lec	Lab	Hrs	Units	Prerequisites
____	ARCHI423	Business Management and Application for Architecture 2	3			3	ARCHI403
____	ARCHI431	Archi Dsgn 10 - Thesis Research Application	1			1	ARCHI411, ARCHI414L, co-req ARCHI434L
____	ARCHI434L	Archi Dsgn 10 - Thesis Research Application Lab		4	12	4	ARCHI411, ARCHI414L, co-req ARCHI431
____	ARCHI-SP3	Specialization Course 3	3			3	ARCHI-SP2
		Total	**7**	**4**	**12**	**11**	

| | | **GRAND TOTAL** | **177** | **47** | **141** | **224** | |

COURSE DESCRIPTION

I. GENERAL EDUCATION COURSES

A. CORE COURSES

GEC003 - Understanding the Self   **3 units**

The course discusses the nature of identity, its factors and forces that affect the development and maintenance of personal identity. It is intended to facilitate the exploration of the issues and concerns regarding self and identity to arrive at a better understanding of one's self. It strives to meet this goal by stressing the integration of the personal with the academic — contextualizing matters discussed in the classroom and in the everyday experiences of students — making for better learning, generating a new appreciation for the learning process, and developing a more critical and reflective attitude while enabling them to manage and improve their selves to attain a better quality of life.

This also includes mandatory topics on Family Planning and Population Education. *Pre-req: None; Co-req: None*

GEC013 - Science, Technology, and Society   **3 units**

The course deals with interactions between science and technology and social cultural, political, and economic contexts, which shape and are shaped by them.

The interdisciplinary course engages students to confront the realities brought about by science and technology in society. Such realities pervade the personal, the public, and the global aspects of our living and are integral to human development. Scientific knowledge and technological development happen in the context of society with all its socio-political, cultural, economic, and philosophical underpinnings at play. This course seeks to instill reflective knowledge in the students that they are able to live the good life and display ethical decision making in the face of scientific and technological advancement.

This also includes discussion of climate change and environmental awareness as well as the implementation of the different environmental protection laws. *Pre-req: None; Co-req: None*

GEC023 - Mga Babasahin Hinggil sa Kasaysayan ng Pilipinas   **3 units**

Ang kursong ito ay tumatalakay sa mga piling primaryang sanggunian ukol sa iba't ibang yugto ng kasaysayan ng Pilipinas, pagsusuri at interpretasyon. Isasama din ang pagtalakay sa konstitusyon ng Pilipinas simula sa taong 1899 hanggang sa taong 1987. Ganun din ang pagtalakay sa repormang agraryo. Gayundin ang pagtalakay sa pagbubuwis bilang instrumento ng pamahalaan. Ito ay may kaugnayan sa tibay ng pagbubuwis bilang isa sa tatlong kapangyarihan ng pamahalaan na nakasaad sa Saligang Batas taong 1987. *Pre-req: None; Co-req: None*

GEC033 - Mathematics in the Modern World   **3 units**

The course discusses the nature of Mathematics, appreciation of its practical, intellectual, and aesthetic dimensions, and application of mathematical tools in daily life. *Pre-req: None; Co-req: None*

GEC043 - The Contemporary World
3 units

The course discusses globalization and its impact on individuals, communities and nations, challenges and responses. It introduces students to the contemporary world by examining the multifaceted phenomenon of globalization. Using the various disciplines of the social sciences, it examines the economic, social, political, technological, and other transformations that have created an increasing awareness of the interconnectedness of people and places around the globe. It provides an overview of the various debates in global governance, development, and sustainability. Beyond exposing the student to the world outside the Philippines, it seeks to inculcate a sense of global citizenship and global ethical responsibility.

This also includes mandatory topics on population education in the context of population and demography. *Pre-req: None; Co-req: None*

GEC053 - Art Appreciation
3 units

The course discusses the nature, function and appreciation of the arts in contemporary society. It intends to develop students' ability to appreciate, analyze, and critique works of art. Through interdisciplinary and multimodal approaches, this course equips students with a broad knowledge of the practical, historical, philosophical, and social relevance of the arts. This will hone their ability to articulate their understanding of the arts. It will also develop students' competency in researching and curating arts as well as conceptualizing, mounting, and evaluating art productions. The course aims to develop students' genuine appreciation for Philippine arts by providing them opportunities to explore the diversity and richness and their rootedness in Filipino culture. *Pre-req: None; Co-req: None*

GEC063 - Purposive Communication
3 units

The course discusses writing, speaking and presenting to different audiences and for various purposes. It develops students' communicative competence and enhances their cultural and intercultural awareness through multimodal tasks that provide them opportunities for communicating effectively and appropriately to a multicultural audience in a local or global context. It equips students with tools for critical evaluation of a variety of texts and focuses on the power of language and the impact of images to emphasize the importance of conveying messages responsibly. *Pre-req: None; Co-req: None*

GEC073 – Ethics
3 units

This course covers the context and tenets of ethical behavior in modern society including how individuals and communities interact with the environment and other common resources. It helps one to enhance their grasp of ethics and moral reasoning through the study of numerous theoretical viewpoints and moral experiences that make up so much of the core of daily life. By the end of the course, students should be able to articulate why and how people are seen as moral beings existing in a moral universe with a responsibility to protect themselves, one another, and the environment for everyone. *Pre-req: None; Co-req: None*

B. CHED MANDATORY COURSES

RZL023 - Buhay at Mga Akda ni Rizal   **3 units**
Ito'y isang pag-aaral sa buhay at gawa ni Gat. Jose Rizal at ang kaugnayan at kahalagahan sa nilalaman ng pangkasaysayang pagsulong ng lipunang Pilipino. Gamit ang istratehiyang 'Dambana" kung saan ang mag-aaral ay maglalaan ng panahon sa Bahay-Rizal sa Calamba, ang mag-aaral ay magiging kabahagi ng Rizal Shrine staff sa edukasyong pangkasaysayan ng mga panauhin sa Bahay-Rizal. *Pre-req: None; Co-req: None*

C. FILIPINO COURSES

FIL083 - Komunikasyon sa Akademikong Pilipino   **3 units**
Ang kursong ito ay isang metalinggwistik na pag-aaral ng wikang Filipino. Nakatuon ito sa estruktura, gamit katangian at kahalagahan ng wikang Filipino sa akademikong larangan. Sa lapit multidisiplinaryo at paraang interaktibo, inaasahang matutukoy at matatalakay ang mga pangunahing kaalaman sa wikang ito. Malilinang dito ang mga kasanayan sa paggamit ng wikang Filipino tungo sa lalong mataas na komunikasyon at sa kritikal na pagdidiskurso. Pre-req: None; Co-req: None

FIL093 - Pagbasa at Pagsulat Tungo sa Pananaliksik   **3 units**
Tatalakayin sa kursong ito ang higit na pagpapalawak ng kaalaman at lalo pang pagpapataas ng antas ng kasanayan sa kritikal na pagbasa at lohikal na pagsulat tungo sa pagsasagawa ng pananaliksik. *Pre-req: FIL083; Co-req: None*

FIL113 - Panitikang Filipino   **3 units**
Ang kursong ito ay pag-aaral sa iba't ibang anyo ng panitikan/ literatura ng Pilipinas sa pamamagitan ng pagbasa sa ilang tekstong pampanitikan na hango sa iba't ibang rehiyon ng Pilipinas , tatalakayin din ang mahahalagang kaganapan sa iba't ibang panahon ng kasaysayan ng panitikan sa sambayanang Pilipino. *Pre-req: FIL093; Co-req: None*

D. PHYSICAL EDUCATION COURSES

PATHFIT1002 - Movement Competency Training   **2 units**
This course provides training in different movement and core engagement in conjunction with principles of healthy and physical active life. Students will be able to adopt and transfer the movement competency in different contexts. *Pre-req: None; Co-req: None*

PATHFIT2022 - Exercise-Based Fitness   **2 units**
This course provides experiences in core stability, strength, and mobility training. It includes goal setting exercise progression and regression and periodic assessment for the development of various fitness component.
Pre-req: PATHFIT1002; Co-req: None

PATHFIT3032 - Individual/Dual Sports   2 units

This course puts emphasis on gaining basic knowledge of individual/dual sports, fitness and lifetime activities. It also includes different kinds of individual/dual sports. Students will learn the skills and game strategies for each sport as well as their historical background and terminology. Activities promote participation in physical activity to achieve good health and wellness. *Pre-req: PATHFIT1002, PATHFIT2022; Co-req: None*

PATHFIT4042 - Contemporary Dance   2 units

This course provides the students the foundations of contemporary dance technique and execution. It focuses on various movement concepts at each level, particularly designed solos, and the integration of organized improvisation to provide students, the opportunity to explore and come up with their own movement language. It encourages creativity by fusing elements of jazz, modern dance, lyrical dance, classical ballet, and other disciplines. *Pre-req: PATHFIT1002, PATHFIT2022; Co-req: None*

E. NATIONAL SERVICE TRAINING PROGRAM

NSTP1-18 - National Service Training Program 1   3 units

The National Service Training Program 1 is a curricular offering consisting of lectures and trainings on citizenship, values education, environment and drug education, disaster management, transformational leadership, dimensions of development and literacy and numeracy skills aimed to empower the youth as potential community leaders toward national development. *Pre-req: None; Co-req: None*

NSTP2-18 - National Service Training Program 2   3 units

The National Service Training Program 2 is a sequel to NSTP1. This course is designed to equip the students with the fundamentals of project identifications, planning implementation and evaluation which include but is not limited to lecture and training on social mobilization, community development, and community service. The students are required to undergo the process of community immersion in pursuit of applying the concepts learned in contributing to the general welfare of in the Colegio's partner communities. *Pre-req: NSTP1-18; Co-req: None*

F. INSTITUTIONAL COURSES

LQEC823 –Letran Quality Enrichment Course 82   3 units

The course covers advanced concepts and skill sets related to Creative Designing, Graphics 2, Theory of Architecture 2, Architectural and other related skills needed by the Archi students.
Pre-req: None; Co-req: None

LQEC833 –Letran Quality Enrichment Course 83   3 units

The course covers advanced concepts and skill sets related to space planning, building technology focusing on 1-story building construction drawings and other related skills needed by the Archi students.
Pre-req: LQEC823; Co-req: None

LQEC843 –Letran Quality Enrichment Course 84   **3 units**
The course covers advance concepts and skill sets related to site development planning and landscaping, building technology focusing specification writing and quantity surveying and other related skills needed by the Archi students. *Pre-req: LQEC833; Co-req: None*

LQEC853 –Letran Quality Enrichment Course 85   **3 units**
The course covers advance concepts and skill sets related to design of complex structures and other related skills needed by the Archi students. *Pre-req: LQEC843; Co-req: None*

RELED051 - The Catholic Christian Faith   **3 units**
This course presents the overview of the Letran Calamba Religious Education Program and the basics of our Christian Faith. The greater part of the course deals with the study of God's action in salvation history that began in creation (Old Testament), highlighted at the coming of Jesus Christ, and culminates in the consummation of God's creation unto Himself. *Pre-req: None; Co-req: None*

RELED063 - Contemporary Issues in Christian Marriage   **3 units**
The emphasis of the course is on marriage and family, presented as a vocation and a sacrament. The study prepares the students for the reception of the sacrament and achievement of better outlook on the realities and complexities of the married state and family life. *Pre-req: RELED051; Co-req: None*

RELED073 - Contemporary Issues About Church and Human Society with Immersion   **3 unit**s
This course studies the seven themes of the social teachings of the Catholic Church. It also tackles contemporary social issues, which hamper the development of our country. An integral part of the course is Makipamuhay, a learning strategy that allows students to experience direct contact with the oppressed in society specifically the rural poor and leads them to develop personal as well as communal witnessing to authentic Christian faith. *Pre-req: RELED051; Co-req: None*

II. TECHNICAL COURSES

A. MATHEMATICS

MATH212 - Solid Mensuration   **2 units**
This deals with the concept of lines and planes; Cavalieri's and Volume theorems; formulas for areas of plane figures, volumes for solids; volumes and surfaces areas for spheres, pyramids, and cones; zone, sector and segment of a sphere; theorem of Pappus. *Pre-req: None; Co-req: None*

MATH183 - Differential and Integral Calculus   **3 units**
The course covers the basic concepts of calculus such as limits, continuity and differentiability of functions; differentiation of algebraic and transcendental functions involving one or more variables; applications of differential calculus to problems on optimization, rates of change, related rates, tangents and normals, and approximations; partial differentiation and transcendental curve tracing. *Pre-req: MATH212; Co-req: None*

B. BASIC ENGINEERING SCIENCES

ENGG003 - Statics of Rigid Bodies   **3 units**
The course deals with the forces acting on non-moving bodies. It covers concurrent and non-concurrent forces, operation with the free-body concepts, equilibrium of coplanar and non-coplanar systems, friction forces, centroids and moments of inertia. *Pre-req: MATH183; Co-req: None*

ENGG063-Strength of Materials   **3 units**
This is a course covering topics in strength of materials which includes axial stress and strain, stresses for torsion and bending, combined stresses, beam deflections, indeterminate beams and elastic instability. Pre-req: ENGG272, ENGG271L; Co-req: None

ENGG283 - Theory of Structures   **3 units**
The course is about the determination of values of shear, moments and deflections of statically determinate & indeterminate beams. *Pre-req: ENGG063A; Co-req: None*

ENGG293 - Steel and Timber Design   **3 units**
The course is about the structural design and investigation of simple elements of structural timber and steel. *Pre-req: ENGG283; Co-req: None*

ENGG303 - Architectural Structures   **3 units**
The course is about the design and investigation of simple reinforced concrete structures. *Pre-req: ENGG293; Co-req: None*

ENGG272/ENGG271L – Surveying/ Surveying Lab   **2/1 unit**
The course covers the theory and use of surveying instruments including tape, transit, level and stadia; methods of running transverse and leveling. *Lecture - Pre-req: MATH183; Co-req: ENGG271L; Laboratory - Pre-req: MATH183; Co-req: ENGG272*

C. ALLIED COURSES

ARCHI021/022L - Architectural Visual Communications 1 (Graphics 1)/ Architectural Visual Communications 1 (Graphics 1) Lab   **1/2 units**
The study of visual communication, typography, alphabet of lines and their applications and the use and care of instruments, geometric construction, use of scale, mensuration and dimensioning. Emphasis is given to the study of the theory of projection with analysis of the relationship between points, lines and planes in space. Includes exercises on surface development and graphic presentation. Lecture - Pre-req: None; Co-req: ARCHI022L; Laboratory - Pre-req: None; Co-req: ARCHI021

ARCHI041/041L - Architectural Visual Communications 2 (Visual Techniques 1)/ Architectural Visual Communications 2 (Visual Techniques 1) Lab   **1/1 unit**
The study of visualization and graphic presentation in the form of freehand drawings including still-life and architectural forms and entourage using different media, in black and white/monochrome. *Lecture - Pre-req: None; Co-req: ARCHI041L; Laboratory - Pre-req: None; Co-req: ARCHI041*

ARCHI061/062L - Architectural Visual Communications 3 (Graphics 2) / Architectural Visual Communications 3 (Graphics 2) Lab   **1/2 units**
An introduction to measured drawings applying graphic conventions; the study of pictorial presentation and perspective projections; plotting of shades and shadows in both orthographic and perspective drawings. *Lecture - Pre-req: ARCHI021, ARCHI022L, co-req ARCHI062L; Laboratory - Pre-req: ARCHI021, ARCHI022L; Co-req: ARCHI061*

ARCHI081/081L - Architectural Visual Communications 4 (Visual Techniques 2) / Architectural Visual Communications 4 (Visual Techniques 2) Lab   **1/1 unit**
An introduction to the study of color as form-giver; psychology of color; theories of light and color; scientific and aesthetic considerations of color; study and exercises on the use of color as presentation tool; architectural presentations and outdoor color rendering using appropriate techniques in color mixing and application and various media such as watercolor, acrylic, paints, pastel etc. *Lecture - Pre-req: ARCHI041, ARCHI041L; Co-req: ARCHI081L; Laboratory - Pre-req: ARCHI041, ARCHI041L; Co-req: ARCHI081*

ARCHI101/101L - Architectural Visual Communications 5 (Visual Techniques 3)/ Architectural Visual Communications 5 (Visual Techniques 3) Lab   **1/1 unit**
Covers exercises on advanced techniques of presentation using mixed media. Includes the study of multi-media composition/digital presentation, photography and computer generation. *Lecture - Pre-req: ARCHI081, ARCHI081L; Co-req: ARCHI101L; Co-req: ARCHI092L; Laboratory -Pre-req: ARCHI081, ARCHI081L; Co-req: ARCHI101*

D. ARCHITECTURE PROFESSIONAL COURSES

ARCHI011/011L - Architectural Design 1 (Introduction to Design) / Architectural Design 1 (Introduction to Design) Lab   **1/1 unit**
Design fundamentals involving basic creative design exercises with emphasis on space, from mass. *Lecture - Pre-req: None; Co-req: ARCHI011L; Laboratory Pre-req: None; Co-req: ARCHI011*

ARCHI031/031L - Theory of Architecture 1/ Theory of Architecture 1 Lab   **1/1 unit**
Design theories with emphasis on perceptual and proxemic sensitivities in organizing forms and space. *Lecture - Pre-req: None; Co-req: ARCHI031L; Laboratory - Pre-req: None; Co-req: ARCHI031*

ARCHI051/051L - Architectural Design 2 (Creative Design Fundamentals) / Architectural Design 2 (Creative Design Fundamentals) Lab   **1/1 unit**
Design exercises involving anthropometrics, modular coordination, functional relationships and activity circuits including basic design techniques and tools. *Lecture - Pre-req: ARCHI011, ARCHI011L, ARCHI031; Co-req: ARCHI051L; Laboratory - Pre-req: ARCHI011, ARCHI011L, ARCHI031L; Co-req: ARCHI051*

ARCHI072 - Theory of Architecture 2   **2 units**
Evaluation of current concepts, goals, processes and methodologies applicable to architectural design. *Pre-req: ARCHI031, ARCHI031L; Co-req: None*

ARCHI091/ARCHI092L - Architectural Design 3 (Creative Design in Architectural Interiors)/ Architectural Design 3 (Creative Design in Architectural Interiors) Lab   **1/2 units**
Design exercises stressing the value of programming, orientation, and inter-relationship of interior spaces. *Lecture - Pre-req: ARCHI051, ARCHI051L, ARCHI072; Co-req: ARCHI092L; Laboratory - Pre-req: ARCHI051, ARCHI051L, ARCHI072; Co-req: ARCHI091*

ARCHI121/121L - Architectural Interiors/ Architectural Interiors Lab   **1/1 unit**
Basic design of interior spaces geared toward initial understanding of theories and principles in architectural interiors in relation to anthropometrics, proxemics and ergonomics. *Lecture - Pre-req: ARCHI031, ARCHI031L; Co-req: ARCHI121L; Laboratory - Pre-req: ARCHI031, ARCHI031L; Co-req: ARCHI122*

ARCHI113 - Building Technology 1 (Building Materials)   **3 units**
Building materials- its properties, composition, application and articulation including the mode of specifying these materials in building construction. *Pre-req: ARCHI031, ARCHI031L; Co-req: None*

ARCHI132 - History of Architecture 1   **2 units**
Architectural manifestation of thoughts from the beginning of civilization to the Byzantine Period. *Pre-req: None; Co-req: None*

ARCHI141/142L - Architectural Design 4 (Space Planning 1)/ Architectural Design 4 (Space Planning 1) Lab 1/2 units

Design exercises involving innovative approaches on vernacular architecture including energy conservation and space management. *Lecture - Pre-req: ARCHI091, ARCHI092L; Co-req: ARCHI142L; Laboratory - Pre-req: ARCHI091, ARCHI092L; Co-req: ARCHI141*

ARCHI152/151L - Building Technology 2 (Construction Drawings in 1-Storey Building)/ Building Technology 2 (Construction Drawings in 1-Storey Building) Lab 2/1 unit

Construction methods and techniques and the production of working drawings of a one-storey building structure in wood, masonry, reinforced concrete and steel. *Lecture - Pre-req: ARCHI113; Co-req: ARCHI151L; Laboratory - Pre-req: ARCHI113; Co-req: ARCHI152*

ARCHI162/161L - Building Utilities 1 (Plumbing and Sanitary Systems) / Building Utilities 1 (Plumbing and Sanitary Systems) Lab 2/1 unit

Principles and practices in plumbing and sanitary systems-its design, installation, operation and maintenance in buildings in relation to the immediate surroundings or environment. Lecture - *Pre-req: ARCHI113; Co-req: ARCHI161L; Laboratory - Pre-req: ARCHI113; Co-req: ARCHI162*

ARCHI172 - Tropical Design 2 units

Techniques for the design and planning of buildings within the technological and social constraints prevailing in the hot-humid tropics. *Pre-req: ARCHI113; Co-req: None*

ARCHI182 - History of Architecture 2 2 units

Architectural manifestation of civilization and thoughts during the era of western dominance towards post modernism. *Pre-req: ARCH132; Co-req: None*

ARCHI191/ARCHI093L - Architectural Design 5 (Space Planning 2)/ Architectural Design 5 (Space Planning 2) Lab 1/3 units

Design exercises stressing the analysis of space requirements based on organizational structure, functional set up and human behavior to focus on linkages and interaction to spaces. *Lecture - Pre-req: ARCHI141, ARCHI142L; Co-req: ARCHI193L; Laboratory - Pre-req: ARCHI141, ARCHI142L; Co-req: ARCHI191*

ARCH202/201L - Building Technology 3 (Construction Drawings in 2-Storey Building)/ Building Technology 3 (Construction Drawings in 2-Storey Building)Lab 2/1 units

Construction methods and techniques and the production of working drawings of a medium- rise building of reinforced concrete, masonry, glass and steel. *Lecture - Pre-req: ARCHI152, ARCHI151L; Co-req: ARCHI201L; Laboratory - Pre-req: ARCHI152, ARCHI151L; Co-req: ARCHI202*

ARCHI212/211L - Building Utilities 2 (Electrical, Electronics, and Mechanical System) / Building Utilities 2 (Electrical, Electronics, and Mechanical System) Lab 2/1 units

Mechanical and Electrical systems in buildings, their design, equipment, installation and maintenance. *Lecture - Pre-req: ARCHI162, ARCHI161L; Co-req: ARCHI211L; Laboratory - Pre-req: ARCHI162, ARCHI161L; Co-req: ARCHI212*

ARCHI222 - History of Architecture 3   2 units

Architectural reflections of traditional Asian thoughts and civilizations: their changes and challenges in contemporary life. *Pre-req: ARCHI18; Co-req: None*

ARCHI233 - Prof Prac 1 (Laws Affecting the Practice of Architecture)   3 units

Legal obligations and responsibilities of the Architect; is designed to provide the students with the basic knowledge of all laws related to the practice of architecture. *Pre-req: ARCHI141, ARCHI142L; Co-req: None*

ARCHI241/241L - CADD for Architecture 1/ CADD for Architecture 1 Lab   1/1 unit

A basic introduction on computer and software programs useful in architectural practice. The course deals with aspects of architectural 2D & 3D drafting and design. *Lecture - Pre-req: ARCHI141, ARCHI142L, ARCHI162, ARCHI161L, Co-req: ARCHI241L; Laboratory - Pre-req: ARCHI141, ARCHI142L, ARCHI162, ARCHI161L; Co-req: ARCHI241*

ARCHI251/ARCHI253L - Architectural Design 6 (Site Development Planning and Landscaping) / Architectural Design 6 (Site Development Planning and Landscaping) Lab   1/3 units

Design exercises stressing environmental analysis, aesthetic, topographic, geologic, and seismologic conditions, utilities, circulations, legal considerations and sensitivities of man. *Lecture - Pre-req: ARCHI191, ARCHI193L; Co-req: ARCHI253L; Laboratory - Pre-req: ARCHI191, ARCHI193L; Co-req: ARCHI251*

ARCHI262/261L - Building Technology 4 (Specification Writing and Quantity Surveying) / Building Technology 4 (Specification Writing and Quantity Surveying) Lab   2/1 units

Specifications writing using uniform system or master format, estimating methods and quantity surveying. *Lecture - Pre-req: ARCHI202, ARCHI201L; Co-req ARCHI261L; Laboratory - Pre-req: ARCHI202, ARCHI201L; co-req: ARCHI262*

ARCHI272/271L - Building Utilities 3 (Acoustics and Lighting Systems) / Building Utilities 3 (Acoustics and Lighting Systems) Lab   2/1 units

The psycho-physics of acoustics and lighting-its measurement, analysis and application to architectural discipline. *Lecture - Pre-req: ARCHI212, ARCHI211L, co-req ARCHI271L; Laboratory - Pre-req: ARCHI212, ARCHI211L; Co-req: ARCHI272*

ARCHI282 - History of Architecture 4   2 units

Reflections on architecture in the Philippines: their changes and challenges in contemporary life and the ideology of conserving its architectural legacies. *Pre-req: ARCHI222; Co-req: None*

ARCHI293 - Prof Prac 2 (Administering the Regular Services of the Architecture)   3 units

Architecture as a profession, Ethical Norms and Office Procedures; is designed to provide the students with the basic understanding of the practice of architecture pertaining to the basic services the architect renders within the context of professionalism, ethical conduct and quality service delivery. *Pre-req: ARCHI233; Co-req: None*

ARCHI303 - Plan 1 (Site Planning and Landscape Architecture)   3 units
The artistic and functional arrangement of buildings; open spaces, service areas, circulation and other external areas; techniques in the enhancement and design of exterior environments. *Pre-req: ARCHI191, ARCHI193L; Co-req: None*

ARCHI311/311L - CADD for Architecture 2/ CADD for Architecture 2 Lab   1/1 unit
An advanced computer-aided architectural rendering, modeling and animation using current software. *Lecture - Pre-req: ARCHI241, ARCHI241L; Co-req: ARCHI311L; Laboratory - Pre-req: ARCHI241, ARCHI241L; Co-req: ARCHI311*

ARCHI321/324L - Architectural Design 7 (Community Architecture and Urban Design)/ Architectural Design 7 (Community Architecture and Urban Design) Lab   1/4 units
Design exercises giving emphasis on the socio-cultural activities of man, architectural conservation, proxemics and materials for architecture and designing with nature. *Lecture - Pre-req: ARCHI251, ARCHI253L; Co-req: ARCHI324L; Laboratory - Pre-req: ARCHI251, ARCHI253L; Co-req: ARCHI321*

ARCHI332/331L - Building Technology 5 (Alternative Building Construction Systems)/ Building Technology 5 (Alternative Building Construction Systems) Lab   2/1 units
Construction methods and techniques for different types of buildings using any appropriate alternative building construction system. *Lecture - Pre-req: ARCHI262, ARCHI261L; Co-req: ARCHI331L; Laboratory - Pre-req: ARCHI262, ARCHI261L; Co-req: ARCHI332*

ARCHI343 - Plan 2 (Fundamentals of Urban Design and Community Architecture)   3 units
Spatial Order, Socio-Cultural expression in the design of the exterior environment in neighborhoods, communities, towns and cities. *Pre-req: ARCHI303*; Co-req: None

ARCHI351/354L - Architectural Design 8 (Design of Complex Structures)/ Architectural Design 8 (Design of Complex Structures) Lab   1/4 units
Design exercises giving emphasis to process and development of building structures, utilities, laws, structural concepts and ecological planning. *Lecture - Pre-req: ARCHI321, ARCHI324L; Co-req: ARCHI354L; Laboratory - Pre-req: ARCHI321, ARCHI324L; Co-req: ARCHI351*

ARCHI363 - Plan 3 (Introduction to Urban and Regional Planning)   3 units
Concepts and emerging trends, methods and techniques in urban and regional planning; design of human settlements, and overview of land use in the planning of regions. *Pre-req: ARCHI343; Co-req: None*

ARCHI373 - Prof Prac 3 (Global Practice for the 21st Century)   3 units
The Architect, the Firm, the Project in the Global Arena; is designed to provide the students with an expanded view of the role of the architect in the built environment and the emerging transformation of the practice of architecture in a global setting. *Pre-req: ARCHI293; Co-req: None*

ARCHI383 - Research Methods for Architecture   3 units
Quantitative and operational methods in architectural design research activity, requirement in use analysis. *Pre-req: ARCHI321, ARCHI324L, GEC063; Co-req: None*

ARCHI392 - Housing   **2 units**
Socio-Cultural and Institutional Challenges for Effective Delivery of Housing in the Philippines. *Pre-req: ENGG303; Co-req: None*

ARCHI403 - Business Management and Application for Architecture 1   **3 units**
The course will focus on managing business architectural firms and understand architectural office processes/ practices. *Pre-req: None; Co-req: ARCHI-SP2*

ARCHI423 - Business Management and Application for Architecture 2   **3 units**
The course is the continuation of Business Management and Application for Architecture 1. *Pre-req: ARCHI403; Co-req: None*

ARCHI411/414L - Architectural Design 9 (Thesis Research Writing)/ Architectural Design 9 (Thesis Research Writing) Lab   **1/4 units**
Design exercises stressing the importance of collaboration in solving architectural problems; preliminary research and studies for the terminal project. *Lecture - Pre-req: ARCHI351, ARCHI354L; Co-req: ARCHI414L; Laboratory - Pre-req: ARCHI351, ARCHI354L; Co-req ARCHI411*

ARCHI431/434L - Architectural Design 10 (Thesis Research Application)/ Architectural Design 10 (Thesis Research Application) Lab   **1/4 units**
Terminal project involving a comprehensive problem in building, interior and landscape architecture integrating the process and issues of previous studies. *Lecture - Pre-req: ARCHI411, ARCHI414L; Co-req: ARCHI434L; Laboratory - Pre-req: ARCHI411, ARCHI414L, Co-req: ARCHI431*

E. SPECIALIZATION COURSES

ARCHI-SP1 - Specialization Course 1   **3 units**
The course will focus on the specializing area for architecture based on the selected track of students. The specializing area for architecture are construction management and community planning development. *Pre-req: ARCHI321, ARCHI324L; Co-req: None*

ARCHI-SP2 - Specialization Course 2   **3 units**
The course is the continuation program for Specialization Course 1. *Pre-req: ARCHI-SP1; Co-req: ARCHI403*

ARCHI-SP3 - Specialization Course 3   **3 units**
The course is the terminal program for Specialization Course 1 and 2. *Pre-req: ARCHI-SP2; Co-req: None*

SCHOOL OF NURSING

Vision

The School of Nursing of Colegio de San Juan de Letran Calamba envisions itself as a CENTER of EXCELLENCE in nursing education, research, practice, and service.

Mission

The School of Nursing of Colegio de San Juan de Letran Calamba commits to enhance the quality of life of individuals, families, and diverse communities locally and globally by upholding the culture of conscience, discipline, and excellence in nursing education, research, practice, and service.

PROGRAM DESCRIPTION

Bachelor of Science in Nursing (BSN) at the Colegio de San Juan de Letran, Calamba Laguna is a four-year outcomes based education program consisting of general education and professional courses. Professional courses with an emphasis on nursing concepts along with corresponding Related Learning Experiences (RLE) are integrated throughout the first through fourth year. An intensive nursing practicum is offered as part of the BSN curriculum to help students achieve the program outcomes that are expected of entry-level nurses and to further hone their nursing competencies. They are equipped to work as nurses in clinical settings, as leaders and managers, and as researchers.

The goal of the BSN program is to produce professional nurses capable of taking on entry-level roles in healthcare facilities or community settings. The professional nurse is capable of providing safe, humane, quality and holistic care to individuals in varying age, gender and health-illness status; heath or at risk families; population groups; and community; singly or in collaboration with other health care providers to promote health, prevent illness, restore health, alleviate suffering and provide end of life care. The professional nurse can help the United Nations achieve its sustainable development goals by 2030.

Program Educational Objectives

The graduate of the **Bachelor of Science in Nursing (BSN)** can perform the following competencies in their profession within 3-5 years of graduation.
1. Advance their practice in the field of Nursing;
2. Assume a higher level of responsibility in the same or related field;
3. Manifest proper ethical principles and values founded on a Filipino, Dominican and Christian orientation; and
4. Continually pursue lifelong learning endeavors.

Program Outcomes and Performance Indicators

Upon completion of the Bachelor of Science in Nursing program, the graduate who is trained in a culture of conscience and excellence with Filipino, Dominican, and Christian, in orientation must be able to:

Program Outcomes	Performance Indicators
1. Apply knowledge of physical, social, natural and health sciences and humanities in the excellent and innovative practice of nursing guided by Letranite values.	• Integrate relevant principles of social, physical, natural, and health sciences and humanities in the formulation and application of appropriate nursing care to given groups of clients (individuals, families, population groups, and communities) with health problems and special needs. • Apply appropriate nursing concepts and actions holistically and comprehensively.
2. Perform safe, appropriate, and holistic care to given groups of clients (individuals, families, population groups, and communities) utilizing the nursing process in simulated situations.	• Assesses the client's (individual, family, population group, and/or community) health status/competence. • Formulates a plan of care to address the health conditions, needs, problems & issues based on priorities.

	- Implements safe & quality interventions with the client to address the health needs, problems, and issues. - Provides health education using selected planning models to targeted clientele (individuals, family, population group, or community) through an online platform. - Evaluates the health status/competence and/or process/expected outcomes of the nurse-client working relationship of the given simulated situation - Institutes appropriate corrective actions to prevent or minimize harm arising from adverse effects of the given simulated situation.
3. Practice nursing in accordance with existing laws, legal, ethical and moral principles.	- Adheres to ethico-moral and legal considerations when providing safe, quality, and professional nursing care. - Apply ethical reasoning and decision making process to address situations of ethical distress and moral dilemma. - Adheres to established norms of conduct based on the Philippine Nursing Law, Code of Ethics of Nurses, and other legal, regulatory, and institutional requirements relevant to safe nursing practice. - Protects client's rights based on Patient's Bill of Rights and Obligations.

	• Implements strategies/policies related to informed consent as it applies in multiple contexts.
4. Communicate effectively in speaking, writing, and presenting using the culturally appropriate language of varied situations.	• Ensures a working relationship with the client and health care team based on trust, respect, and shared decision making. • Gathers assessment data utilizing appropriate data gathering methods and tools. • Makes an appropriate care plan to address the needs of individuals, families, population groups, and communities of the given varied situations. • Uses safe, appropriate, and secure technology to facilitate communication.
5. Report/document client care accurately and comprehensively.	• Documents the client's responses/nursing care services rendered and processes/outcomes of the nurse-client working relationship. • Ensures completeness, integrity, safety, accessibility, and security of information. • Adhere to protocol and principles of confidentiality in safekeeping and releasing of records and other information.

6. Apply techno-intelligent care systems and processes in health care delivery.	• Uses appropriate technology to perform safe and efficient nursing services.
7. Collaborate effectively with inter-, intra-, and multi-disciplinary and multi-cultural teams.	• Ensures intra-agency, inter-agency, multidisciplinary, and sectoral collaboration in the delivery of health care of varied situations. • Implements strategies/approaches to enhance/support the capability of the client and care providers to participate in decision making by the interprofessional team of varied situations. • Maintain a harmonious and collegial relationship among members of the health team for effective, efficient, and safe client care of the varied situations. • Coordinates the tasks/functions of other nursing personnel (midwife, BHW, and utility worker). • Collaborates with other members of the health team in the implementation of programs and services. • Apply principles of partnership and collaboration to improve delivery of health services. • Collaborates with GO's, NGO's and other socio civic agencies to improve health care services, support environment protection policies and strategies and safety and security mechanisms in the community.

	- Participate as a member of a quality team in implementing the appropriate quality improvement process on identified improvement opportunities.
8. Practice beginning management and leadership skills using a systems approach in the delivery of client care in varied situations.	- Participates in the development and improvement of policies and standards regarding safe nursing practice and relevant to human resource management. - Manages resources (human, physical, financial, time) efficiently and effectively. - Applies management and leadership principles in providing direction to manage a community/village-based. - Uses appropriate strategies/approaches to planning community health programs and nursing services - Supervises the implementation of the nursing component of the health services/programs - Ensures that all nursing personnel adheres to standards of safety, bioethical principles, and evidenced-based nursing practice. - Evaluates specific components of health programs and nursing services based on parameters/criteria - Maintains a positive practice environment. - Participates in the planning and implementation of staff development activities to enhance the performance of nursing support staff.

	• Evaluates performance of nursing support staff using a standard evaluation tool.
9. Engage in life-long learning with a passion to keep current with national and global developments in general and nursing and health development in particular.	• Assumes responsibility for lifelong learning, personal development, and maintenance of competence. • Participates actively in case study discussions, conferences, and other learning activities. • Updates oneself to trends and issues affecting the nursing profession and health care delivery system • Participates actively in professional organizations and socio-civic activities. • Models the qualities of a visionary Letranite nurse leader/manager. • Engages in advocacy activities to influence health and social care service policies and access to services. • Leads in advocacy activities to deal with health-related concerns and adopts policies that foster the growth and development of the nursing profession.
10.Apply entrepreneurial skills in the delivery of nursing care	• Identifies opportunities for entrepreneurial nursing practice. • Applies strategic interventions to address health-related concerns of individuals, families, communities, and population groups to a given simulated situation.

11. Apply guidelines and principles of evidence-based practice in the delivery of care.	• Uses the current best evidence in providing safe and quality care in the given situation. • Collaborates with the health care team in the application of best research evidence in client care • Integrates client's values, preferences, best pieces of evidence, and clinical expertise in decision making for client care of the given situation. • Presents a safe and effective nursing care plan using evidence-based nursing interventions.
12. Conduct research with an experienced researcher	• Applies guidelines and principles of evidence-based practice in the delivery of care. • Uses research results/findings to improve nursing care plans • Shares the best applicable research results/findings with the health care team
13. Demonstrate responsible citizenship and pride in being a Filipino.	• Exemplifies love for the country in service of the Filipinos. • Customizes nursing interventions based on Philippine culture and values.

14. Upholds the nursing core values in the practice of the profession as a Letranite Nurse.	• Demonstrates caring as the core of the Philippine nursing profession (love God, love of country, and love of people). • Manifests professionalism, integrity, and excellence. • Projects the positive professional image of a Filipino Nurse.
15. Manifest strong commitment and conviction to the Christian and Dominican teachings and philosophy in thoughts, words, and deeds.	• Demonstrates having a conscience, discipline, and excellence in personal and professional life.

BACHELOR OF SCIENCE IN NURSING
GENERAL SUMMARY OF COURSES

I. General Education Courses

A. Core Courses — **24**

GEC003	Understanding the Self	3
GEC013	Science, Technology, and Society	3
GEC023	Mga Babasahin Hinggil sa Kasaysayan ng Pilipinas	3
GEC033	Mathematics in the Modern World	3
GEC043	The Contemporary World	3
GEC053	Art Appreciation	3
GEC063	Purposive Communication	3
GEC073	Ethics	3

B. CHED Mandated Courses — **26**

a. Rizal Course

RZL023	Buhay at Mga Akda ni Rizal	3

b. Physical Education Courses

PATHFIT100	Movement Competency Training	2
PATHFIT202	Exercise Based Fitness Activities	2
PATHFIT303	Individual/Dual Sports	2
PATHFIT404	Contemporary Dance	2

c. National Service Training Program

NSTP1-18	National Service Training Program 1	3
NSTP2-18	National Service Training Program 2	3

d. GENED Elective Courses

GECELEC1	Living in the IT Era	3
GECELEC2	The Entrepreneurial Mind	3
GECELEC3	Philippine Popular Culture	3

C. Institutional Mandated Courses — **18**

a. Religious Education Courses

RELED053	The Catholic Christian Faith	3
RELED063	Contemporary Issues in Christian Marriage	3
RELED073	Contemporary Issues About Church and Human Society with Immersion	3
RELED083	Christian Ethics	3

b. Letran Quality Enrichment Courses

LQEC23-013	Letran Quality Enhancement Course I (Letran Calamba Identity and 21st Century Learning Skills)	3
LQEC23-023	Letran Quality Enhancement Course II (21st Century Literacy Skills & Life Skills and Sustainability)	3

II. Integrative Courses — **13**

NCEP026	Nursing Comprehensive Enhancement Program I	6

NR002	Genetics and Genomics in Nursing		2
NR012	Palliative and End of Life Nursing		2
NR023	Nursing Entrepreneurship and Innovations		3

III. Major Courses   **17**

AnaPhys003	Anatomy & Physiology		3
AnaPhys002L	Anatomy & Physiology Lab		2
CHM073	Biochemistry		3
CHM072L	Biochemistry Lab		2
McroPra063	Microbiology & Parasitology		3
McroPra061L	Microbiology & Parasitology Lab		1
Phl093N	Logic and Critical Thinking		3

IV. Professional Courses   **126**

NCM100-18	Theoretical Foundations in Nursing		3
NCM101-18	Health Assessment (HA)		3
RLE101-18	Related Learning Experiences (HA)	102hrs	2
NCM102-18	Health Education		3
NCM103-18	Fundamentals of Nursing Practice (FNP)		3
RLE103-18	Related Learning Experiences (FNP)	102hrs	2
NCM104-18	Community Health Nursing I (CHN I)		2
RLE104-18	Related Learning Experiences (CHN I)	102hrs	2
NCM105-18	Nutrition and Diet Therapy		2
NCM105L-18	Nutrition and Diet Therapy Lab		1
NCM106-18	Pharmacology		3
NCM107-18	Care of Mother, Child, Adolescent (Well Client)		4
RLE107-18	Related Learning Experiences (MCN I)	255hrs	5
NCM108-18	Health Care Ethics		3
NCM109-18	Care of Mother and Child at Risk or With Problems		6
RLE109-18	Related Learning Experiences (MCN II)	306hrs	6
NCM110-18	Nursing Informatics		2
NCM110L-18	Nursing Informatics Lab		1
NCM111-18	Nursing Research I		2
RLE111-18	RLE - Nursing Research I	51hrs	1
NCM112-18	Care of Clients with Problems in Oxygenation, Fluids and Electrolyte, Infectious, Inflammatory and Immunologic Response, Cellular Aberration, Acute and Chronic		8
RLE112-18	Related Learning Experiences (MS I)	306hrs	6
NCM113-18	Community Health Nursing II (CHN II)		2
RLE113-18	Related Learning Experiences (CHN II)	51hrs	1
NCM114-18	Care of the Older Person		2
RLE114-18	Related Learning Experiences (COP)	51hrs	1
NCM115-23	Nursing Research II		1

RLE115-18	RLE - Nursing Research II	102hrs	2
NCM116-18	Care of Clients with Problems in Nutrition, GI Metabolism and Endocrine, Perception and Coordination, Acute and Chronic		5
RLE116-18	Related Learning Experiences (MS II)	204hrs	4
NCM117-18	Care of Clients with Maladaptive Patterns of Behavior, Acute and Chronic		4
RLE117-18	Related Learning Experiences (PSYCH)	204hrs	4
NCM118-18	Nursing Care of Clients with Life Threatening Conditions /acutely ill/multi-organ problems/high acuity and emergency situations, Acute and Chronic		4
RLE118-18	Related Learning Experiences (EN)	255hrs	5
NCM119-18	Nursing Leadership and Management		4
RLE119-18	Related Learning Experiences (NLM)	153hrs	3
NCM120-18	Decent Work Employment and Transcultural Nursing		3
NCM121-18	Disaster Preparedness Nursing		2
RLE121-18	Related Learning Experiences (DN)	51hrs	1
NCM122-18	Intensive Nursing Practicum (Hospital and Community Setting)	408hrs	8

2,703hrs

TOTAL UNITS 224

BACHELOR OF SCIENCE IN NURSING
Curriculum Year 2023-2024

COURSE CODE	COURSE TITLE	Lec Units/Hrs	Lab Units	Lab Hrs	RLE Units	RLE Hrs	TOTAL	PRE-REQUISITES/ CO-REQUISITES
FIRST YEAR, First Semester								
AnaPhys002L	Anatomy & Physiology Lab		2	6			2	co-req AnaPhys003
AnaPhys003	Anatomy & Physiology	3					3	co-req AnaPhys002L
CHM072L	Biochemistry Lab		2	6			2	co-req CHM073
CHM073	Biochemistry	3					3	co-req CHM072L
GEC073	Ethics	3					3	
LQEC23-013	Letran Quality Enhancement Course I (Letran Calamba Identity and 21st Century Learning Skills)	3					3	
NCM100-18	Theoretical Foundations in Nursing	3					3	
NSTP1-18	National Service Training Program 1	3					3	
PATHFIT1002	Movement Competency Training	2					2	
	Total	20	4	12	0	0	24	
FIRST YEAR, Second Semester								
GEC033	Mathematics in the Modern World	3					3	
McroPra061L	Microbiology & Parasitology Lab		1	3			1	AnaPhys003, AnaPhys002L co-req McroPra063
McroPra063	Microbiology & Parasitology	3					3	AnaPhys003, AnaPhys002L co-req McroPra061L
NCM101-18	Health Assessment (HA)	3					3	NCM100-18, co-req NCM102-18, RLE101-18, NCM103-18
NCM102-18	Health Education	3					3	NCM100-18 co-req NCM101-18, RLE101-18, NCM103-18
NCM103-18	Fundamentals of Nursing Practice (FNP)	3					3	NCM 100-18 co-req RLE103-18, NCM101-18, NCM102-18
NSTP2-18	National Service Training Program 2	3					3	NSTP1-18
PATHFIT2022	Exercise Based Fitness Activities	2					2	PATHFIT1002
RELED053	The Catholic Christian Faith	3					3	
RLE101-18	Related Learning Experiences (HA)				2	102	2	co-req NCM101-18
RLE103-18	Related Learning Experiences (FNP)				2	102	2	co-req NCM103-18
	Total	23	1	3	4	204	28	
SECOND YEAR, First Semester								
LQEC23-023	Letran Quality Enhancement Course II (21st Century Literacy Skills & Life Skills and Sustainability)	3					3	LQEC23-013
NCM104-18	Community Health Nursing I (CHN I)	2					2	NCM103-18, RLE103-18 co-req RLE104-18
NCM105-18	Nutrition and Diet Therapy	2					2	NCM103-18, RLE103-18, co-req NCM105L-18
NCM105L-18	Nutrition and Diet Therapy Lab		1	3			1	NCM103-18, RLE103-18, co-req NCM105-18
NCM106-18	Pharmacology	3					3	NCM103-18, RLE103-18
NCM107-18	Care of Mother, Child, Adolescent (Well Client)	4					4	NCM103-18, RLE103-18, co-req RLE107-18
NCM108-18	Health Care Ethics	3					3	NCM103-18, RLE103-18
PATHFIT3032	Individual/Dual Sport (Swimming)	2					2	PATHFIT1002, PATHFIT2022
RELED063	Contemporary Issues in Christian Marriage	3					3	RELED053
RLE104-18	Related Learning Experiences (CHN I)				2	102	2	co-req NCM104-18
RLE107-18	Related Learning Experiences (MCN I)				5	255	5	co-req NCM107-18
	Total	22	1	3	7	357	30	
SECOND YEAR, Second Semester								
GEC003	Understanding the Self	3					3	
GEC023	Mga Babasahin Hinggil sa Kasaysayan ng Pilipinas	3					3	
GEC043	The Contemporary World	3					3	
NCM109-18	Care of Mother and Child at Risk or With Problems	6					6	NCM107-18, RLE107-18 co-req RLE109-18
NCM110-18	Nursing Informatics	2					2	NCM108-18 co-req NCM110L-18
NCM110L-18	Nursing Informatics Lab		1	3			1	NCM108-18 co-req NCM110-18
PATHFIT4042	Contemporary Dance	2					2	PATHFIT1002, PATHFIT2022
RELED083	Christian Ethics	3					3	RELED053
RLE109-18	Related Learning Experiences (MCN II)				6	306	6	co-req NCM109-18
	Total	22	1	3	6	306	29	
THIRD YEAR, First Semester								
GEC013	Science, Technology, and Society	3					3	
NCM111-18	Nursing Research I	2					2	NCM108-18, co-req RLE111-18

BACHELOR OF SCIENCE IN NURSING
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COURSE CODE	COURSE TITLE	Lec Units/Hrs	Lab Units	Lab Hrs	RLE Units	RLE Hrs	TOTAL	PRE-REQUISITES/ CO-REQUISITES
NCM112-18	Care of Clients with Problems in Oxygenation, Fluids and Electrolyte, Infectious, Inflammatory and Immunologic Response, Cellular Aberration, Acute and	8					8	NCM109-18, RLE109-18, co-req: RLE112-18
NCM113-18	Community Health Nursing II (CHN II)Population Groups and Community as Clients	2					2	NCM104-18, RLE104-18, co-req RLE113-18
NCM114-18	Care of the Older Adult	2					2	NCM109-18, RLE109-18, co-req RLE114-18
RLE111-18	RLE - Nursing Research I				1	51	1	co-req NCM111-18
RLE112-18	Related Learning Experiences (MS I)				6	306	6	co-req NCM112-18
RLE113-18	Related Learning Experiences (CHN II)				1	51	1	co-req NCM113-18
RLE114-18	Related Learning Experiences (COP)				1	51	1	co-req NCM114-18
RELED073	**Human Society with Immersion**	**3**					**3**	**RELED053**
THIRD YEAR, Second Semester								
GECELEC2	The Entrepreneurial Mind	3					3	
NCM115-23	Nursing Research II	1					1	NCM111-18, RLE111-18 co-req RLE115-18
NCM116-18	Care of Clients with Problems in Nutrition, GI Metabolism and Endocrine, Perception and Coordination, Acute and Chronic	5					5	NCM112-18, RLE112-18, co-req RLE116-18
NCM117-18	Care of Clients with Maladaptive Patterns of Behavior, Acute and Chronic	4					4	NCM112-18, RLE112-18, co-req RLE117-18
NR002	Genetics and Genomics in Nursing	2					2	NCM109-18, RLE109-18
RLE115-18	Nursing Research II				2	102	2	co-req NCM115-23
RLE116-18	Related Learning Experiences (MS II)				4	204	4	co-req NCM116-18
RLE117-18	Related Learning Experiences (PSYCH)				4	204	4	co-req NCM117-18
RZL023	Buhay at Mga Akda ni Rizal	3					3	
	Total	**18**	**0**	**0**	**10**	**510**	**28**	
FOURTH YEAR, First Semester								
GECELEC1	Living in the IT Era	3					3	
GECELEC3	Philippine Popular Culture	3					3	
GEC053	Art Appreciation	3					3	
GEC063	Purposive Communication	3					3	
NCM118-18	Nursing Care of Clients with Life Threatening Conditions/acutely ill/multi-organ problems/high acuity and emergency situations, Acute and Chronic	4					4	NCM117-18, RLE117-18, co-req RLE118-18
NCM119-18	Nursing Leadership and Management	4					4	NCM117-18, RLE117-18, co-req RLE119-18
RLE118-18	Related Learning Experiences (EN)				5	255	5	co-req NCM118-18
RLE119-18	Related Learning Experiences (NLM)				3	153	3	co-req NCM119-18
FOURTH YEAR, Second Semester								
NCEP026	Nursing Comprehensive Enhancement Program I	6					6	NCM119-18, RLE119-18
NCM120-18	Decent Work Employment & Transcultural Nursing	3					3	NCM119-18, RLE119-18
NCM121-18	Disaster Nursing	2					2	co-req RLE121-18
NCM122-18	Intensive Nursing Practicum (Hospital & Community Setting)				8	408	8	NCM118-18, RLE 118-18
NR012	Palliative and End of Life Nursing	2					2	NCM118-18, RLE118-18
NR023	Nursing Entrepreneurship and Innovations	3					3	NCM119-18, RLE119-18
Phi093N	Logic and Critical Thinking	3					3	
RLE121-18	Related Learning Experiences (DN)				1	51	1	co-req NCM121-18
	Total	**19**	**0**	**0**	**9**	**459**	**28**	

164	Lecture Units
7	Laboratory Units
53	RLE Units
2703	RLE Hours
GRAND TOTAL	**224**

COURSE DESCRIPTION

I. GENERAL EDUCATION COURSES

A. CORE COURSES

GEC003 - Understanding the Self **3 units**

The course discusses the nature of identity, its factors and forces that affect the development and maintenance of personal identity. It is intended to facilitate the exploration of the issues and concerns regarding self and identity to arrive at a better understanding of one's self. It strives to meet this goal by stressing the integration of the personal with the academic — contextualizing matters discussed in the classroom and in the everyday experiences of students — making for better learning, generating a new appreciation for the learning process, and developing a more critical and reflective attitude while enabling them to manage and improve their selves to attain a better quality of life.

This also includes mandatory topics on Family Planning and Population Education. *Pre-req: None; Co-req: None*

GEC013 - Science, Technology, and Society **3 units**

The course deals with interactions between science and technology and social cultural, political, and economic contexts, which shape and are shaped by them.

The interdisciplinary course engages students to confront the realities brought about by science and technology in society. Such realities pervade the personal, the public, and the global aspects of our living and are integral to human development. Scientific knowledge and technological development happen in the context of society with all its socio-political, cultural, economic, and philosophical underpinnings at play. This course seeks to instill reflective knowledge in the students that they are able to live the good life and display ethical decision making in the face of scientific and technological advancement.

This also includes discussion of climate change and environmental awareness as well as the implementation of the different environmental protection laws. *Pre-req: None; Co-req: None*

GEC023 - Mga Babasahin Hinggil sa Kasaysayan ng Pilipinas **3 units**

Ang kursong ito ay tumatalakay sa mga piling primaryang sanggunian ukol sa iba't ibang yugto ng kasaysayan ng Pilipinas, pagsusuri at interpretasyon. Isasama din ang pagtalakay sa konstitusyon ng Pilipinas simula sa taong 1899 hanggang sa taong 1987. Ganun din ang pagtalakay sa repormang agraryo. Gayundin ang pagtalakay sa pagbubuwis bilang instrumento ng pamahalaan. Ito ay may kaugnayan sa tibay ng pagbubuwis bilang isa sa tatlong kapangyarihan ng pamahalaan na nakasaad sa Saligang Batas taong 1987. *Pre-req: None; Co-req: None*

GEC033 - Mathematics in the Modern World
3 units

The course discusses the nature of Mathematics, appreciation of its practical, intellectual, and aesthetic dimensions, and application of mathematical tools in daily life. *Pre-req: None; Co-req: None*

GEC043 - The Contemporary World
3 units

The course discusses globalization and its impact on individuals, communities and nations, challenges and responses. It introduces students to the contemporary world by examining the multifaceted phenomenon of globalization. Using the various disciplines of the social sciences, it examines the economic, social, political, technological, and other transformations that have created an increasing awareness of the interconnectedness of people and places around the globe. It provides an overview of the various debates in global governance, development, and sustainability. Beyond exposing the student to the world outside the Philippines, it seeks to inculcate a sense of global citizenship and global ethical responsibility.
This also includes mandatory topics on population education in the context of population and demography.
Pre-req: None; Co-req: None

GEC053 - Art Appreciation
3 units

The course discusses the nature, function and appreciation of the arts in contemporary society. It intends to develop students' ability to appreciate, analyze, and critique works of art. Through interdisciplinary and multimodal approaches, this course equips students with a broad knowledge of the practical, historical, philosophical, and social relevance of the arts. This will hone their ability to articulate their understanding of the arts. It will also develop students' competency in researching and curating arts as well as conceptualizing, mounting, and evaluating art productions. The course aims to develop students' genuine appreciation for Philippine arts by providing them opportunities to explore the diversity and richness and their rootedness in Filipino culture. *Pre-req: None; Co-req: None*

GEC063 - Purposive Communication
3 units

The course discusses writing, speaking and presenting to different audiences and for various purposes. It develops students' communicative competence and enhances their cultural and intercultural awareness through multimodal tasks that provide them opportunities for communicating effectively and appropriately to a multicultural audience in a local or global context. It equips students with tools for critical evaluation of a variety of texts and focuses on the power of language and the impact of images to emphasize the importance of conveying messages responsibly. *Pre-req: None; Co-req: None*

GEC073 – Ethics
3 units

This course covers the context and tenets of ethical behavior in modern society including how individuals and communities interact with the environment and other common resources. It helps one to enhance their grasp of ethics and moral reasoning through the study of numerous theoretical viewpoints and moral experiences that make up so much of the core of daily life. By the end of the course, students should be able to articulate why and how people are seen as moral beings existing in a moral universe with a responsibility to protect themselves, one another, and the environment for everyone. *Pre-req: None; Co-req: None*

B. GENERAL EDUCATION ELECTIVE COURSES

GECELEC1 - Living in the IT Era   3 units
This general education elective course discusses how information technology shaped that way of life in the modern era. It discusses the science, culture and ethics information technology as well as how it affects contemporary life and interpersonal interactions and the way it may be used to promote one's social, professional, and personal goals. *Pre-req: None; Co-req: None*

GECELEC2 - The Entrepreneurial Mind   3 units
This general education elective course focuses on the nature and fundamentals of entrepreneurship as well as its societal responsibilities and repercussions. It is designed to assist students comprehend the business environment and encourage individuals adopt and innovative mindset. *Pre-req: None; Co-req: None*

GECELEC3 - Philippine Popular Culture   3 units
This general education elective course focuses on the emerging potential and expectation of mass audiences, markets and mass media, as well as their social, economic, and political settings, in the field of art, music, and literature. By the completion of the course, students should be able to demonstrate their appreciation of traditional and modern cultural expressions of as well as identify, analyze and develop trends in Philippine culture that have been inspired by various internal and external influences. *Pre-req: None; Co-req: None*

C. CHED MANDATORY COURSES

RZL023 - Buhay at Mga Akda ni Rizal   3 units
Ito'y isang pag-aaral sa buhay at gawa ni Gat. Jose Rizal at ang kaugnayan at kahalagahan sa nilalaman ng pangkasaysayang pagsulong ng lipunang Pilipino. Gamit ang istratehiyang 'Dambana" kung saan ang mag-aaral ay maglalaan ng panahon sa Bahay-Rizal sa Calamba, ang mag-aaral ay magiging kabahagi ng Rizal Shrine staff sa edukasyong pangkasaysayan ng mga panauhin sa Bahay-Rizal. *Pre-req: None; Co-req: None*

D. INSTITUTIONAL MANDATED COURSES

LQEC23-013 - Letran Quality Enrichment Course I (Letran Calamba Identity and 21st Century Learning Skills)   3 units
LQEC 1 is an enhancement course that is designed to introduce the identity of Colegio de San Juan de Letran Calamba including its history, Dominican spirituality, mission, vision, quality objectives, policies , processes and services. It also introduces the "Four Cs" of 21st Century Learning: Critical Thinking, Creativity, Collaboration and Communication that aims to enhance students' knowledge and awareness of the essential communication concepts and establish deep comprehension of the processes in a creative manner. Furthermore, it helps the learners to formulate logical and well-thought-out reasoned judgments and promote active engagement with others to achieve a common goal. Pre-req: None; Co-req: None

LQEC23-023 - Letran Quality Enrichment Course II (21st Century Literacy Skills & Life Skills and Sustainability) 3 units

LQEC 2 is an enhancement course that is designed to provide basic understanding about leadership, flexibility, initiative, social skills and productivity. It also introduces digital literacy which focuses on fundamental understanding of media, technology, and information as tools for communication and the advancement of people and communities.

Moreover, the course also introduces the concept of Environment, Social, and Governance (ESG) which determines an organization's commitment to sustainability. All of these are necessary to help the learners become competitively employable in the future of work. *Pre-req: LQEC23-013; Co-req: None*

RELED053 - The Catholic Christian Faith 3 units

This course deals with the basic Catholic Christian Doctrine. It highlights the 12 articles of faith in the Apostles Creed, as well as the Sacred Scripture. Thus it guides the students to a life of truth, fidelity and worship to God. *Pre-req: None; Co-req: None*

RELED063 - Contemporary Issues in Christian Marriage 3 units

Contemporary Issues in Christian Marriage is a three unit academic subject. The emphasis of the course is on Marriage and Family presented as a vocation and a sacrament. The study prepares the students for the reception of the sacrament and achievement of a better outlook on the realities and complexities of the married state and family life. *Pre-req: RELED053; Co-req: None*

RELED073 - Contemporary Issues About Church and Human Society with Immersion 3 units

Contemporary Issues About Church and Human Society with Immersion is a three unit academic subject. This course studies the seven themes of the social teachings of the Catholic Church. It also tackles contemporary social issues which hamper the development of our country. An integral part of the course is Makipamuhay, a learning strategy that allows students to experience direct contact with the oppressed in society specifically the rural poor and leads them to develop personal as well as communal witnessing to authentic Christian faith. *Pre-req: RELED053; Co-req: None*

RELED083 - Christian Ethics 3 units

This course presents the foundations and fundamentals of Christian Ethics and their application to issues and concerns related to the Ten Commandments. *Pre-req: RELED053; Co-req: None*

E. PHYSICAL EDUCATION COURSES

PATHFIT1002 - Movement Competency Training 2 units

This course provides training in different movement and core engagement in conjunction with principles of healthy and physical active life. Students will be able to adopt and transfer the movement competency in different contexts. *Pre-req: None; Co-req: None*

PATHFIT2022 - Exercise-Based Fitness
2 units

This course provides experiences in core stability, strength, and mobility training. It includes goal setting exercise progression and regression and periodic assessment for the development of various fitness component. *Pre-req: PATHFIT1002; Co-req: None*

PATHFIT3032 - Individual/Dual Sports
2 units

This course puts emphasis on gaining basic knowledge of individual/dual sports, fitness and lifetime activities. It also includes different kinds of individual/dual sports. Students will learn the skills and game strategies for each sport as well as their historical background and terminology. Activities promote participation in physical activity to achieve good health and wellness. *Pre-req: PATHFIT1002, PATHFIT2022; Co-req: None*

PATHFIT4042 - Contemporary Dance
2 units

This course provides the students the foundations of contemporary dance technique and execution. It focuses on various movement concepts at each level, particularly designed solos, and the integration of organized improvisation to provide students, the opportunity to explore and come up with their own movement language. It encourages creativity by fusing elements of jazz, modern dance, lyrical dance, classical ballet, and other disciplines. *Pre-req: PATHFIT1002, PATHFIT2022; Co-req: None*

F. NATIONAL SERVICE TRAINING PROGRAM

NSTP1-18 - National Service Training Program 1
3 units

The National Service Training Program 1 is a curricular offering consisting of lectures and trainings on citizenship, values education, environment and drug education, disaster management, transformational leadership, dimensions of development and literacy and numeracy skills aimed to empower the youth as potential community leaders toward national development. Pre-req: None; Co-req: None

NSTP2-18 - National Service Training Program 2
3 units

The National Service Training Program 2 is a sequel to NSTP1. This course is designed to equip the students with the fundamentals of project identifications, planning implementation and evaluation which include but is not limited to lecture and training on social mobilization, community development, and community service. The students are required to undergo the process of community immersion in pursuit of applying the concepts learned in contributing to the general welfare of in the Colegio's partner communities. Pre-req: NSTP1-18; Co-req: None

II. NURSING PROFESSIONAL COURSES

AnaPhys003 / AnaPhys002L - ANATOMY AND PHYSIOLOGY (Lecture and Laboratory)
3 units Lec / 2 units Lab

This course deals with humans in terms of their adaptations, structural framework, with an emphasis on physiology regulations' adaptive mechanisms, integrates lecture with laboratory experiences, which provide exercises and techniques necessary in clinical situations. By carefully planning didactic and laboratory experiences and fostering transformative learning, it is anticipated that the learners will have many opportunities for holistic engagement in learning the Sustainable Development Goals beyond SDG 3 (Ensure Healthy Lives and Promote Well-Being). *Pre-req: None; Co-req: AnaPhys002L / AnaPhys003*

CHM073/CHM072L - BIOCHEMISTRY (Lecture and Laboratory)　　　　**3 units Lec / 2 units Lab**

This course deals with the study of the chemical composition of living cells. This embraces the study of the chemistry of carbohydrates, lipids, proteins, nucleic acids, and enzymes and their metabolism when taken as food by man. The learners are anticipated to have a wide range of opportunities for holistic engagement in learning the Sustainable Development Goals beyond SDG 3 (Ensure Healthy Lives and Promote Well-Being) through careful planning of didactic and laboratory experiences and supporting transformative learning. *Pre-req: None; Co-req: CHM073/ CHM072L*

NCM100-18 - THEORETICAL FOUNDATIONS IN NURSING　　　　　　　　　**3 units Lec**

This course deals with nursing theories as applied to nursing practice in the four aspects of the metaparadigm: person, health, environment, and nursing. Likewise, it includes other theories relevant to nursing. The learners are expected to use these theories as a basis and guide in their nursing practice. Through careful planning of didactic experiences and supporting transformative learning, the learners are expected to have many opportunities for holistic engagement with the Sustainable Development Goals beyond SDG 3 (Ensure Healthy Lives and Promote Well-Being) *Pre-req: None; Co-req: None*

McroPra063 / McroPra061L- MICROBIOLOGY AND PARASITOLOGY LECTURE & LABORATORY
3 units Lec / 1 unit Lab

This course is designed to assist students in the study of important microorganisms and parasites. It explains the physiology and pathogenic properties of bacteria, fungi, and viruses as an introduction to disease causation, their biology, the infection they cause, the host response to these infections, their mode of transmission, prevention, treatment, and nursing responsibilities. The laboratory experience provides specimen collection, handling, and processing of specimens for isolation and identification of microorganisms and parasites involved in infectious processes. Through careful planning of didactic and laboratory experiences and by fostering transformative learning, the learners are expected to have many opportunities for holistic engagement in learning the Sustainable Development Goals beyond SDG 3 (Ensure Healthy Lives and Promote Well-Being). *Pre-req: AnaPhys003 / AnaPhys002L; Co-req: McroPra061L/ McroPra063*

NCM101-18/RLE101-18 HEALTH ASSESSMENT/ RELATED LEARNING EXPERIENCES (HA)

3 units Lec / 2 units RLE (102 hrs)

This course deals with the concepts, principles, and techniques of history taking, head to toe physical examination, and psychosocial assessment using various tools and the interpretation of laboratory findings to arrive at a nursing diagnosis. The learners are expected to perform a holistic nursing assessment of an individual adult client. Through careful planning of didactic and laboratory experiences and supporting transformative learning, the learners are expected to have many opportunities for holistic engagement in learning the Sustainable Development Goals beyond SDG 3 (Ensure Healthy Lives and Promote Well-Being) *Pre-req: NCM100-18; Co-req: NCM102-18; NCM103-18; RLE101-18*

NCM102-18 Health Education

3 units Lec

This course deals with concepts, principles, and theories in teaching and learning. It also focuses on the appropriate strategies of health education as they apply in various health care scenarios. The learners are expected to develop beginning skills in designing and implementing a teaching plan using the nursing process as a framework. Learners are expected to have a variety of opportunities for holistic engagement in learning and applying the Sustainable Development Goals, which go beyond SDG 3 (Ensure Healthy Lives and Promote Well-Being), through careful planning of didactic experiences and encouraging transformative learning. *Pre-req: NCM100-18; Co-req: NCM101-18; RLE101-18; NCM103-18*

NCM103-18/RLE103-18 FUNDAMENTALS OF NURSING/ RELATED LEARNING EXPERIENCES (FNP)

3 units Lec / 2 units RLE (102 hrs)

This course deals with concepts, principles, theories, and techniques basic to nursing as a profession, science, and art. It emphasizes the concept of man as a holistic being and the professional roles of the nurse in a health care setting. The learners are expected to utilize the nursing process and the basic nursing skills as primary tools in health promotion, disease prevention, restoration, maintenance, and rehabilitation. The learners are anticipated to have a wide range of opportunities for holistic engagement in learning and application of the Sustainable Development Goals beyond SDG 3 (Ensure Healthy Lives and Promote Well-Being) through careful planning of didactic and laboratory experiences and supporting transformative learning. *Pre-req: NCM100-18; Co-req: NCM101-18; NCM102-18; RLE103-18*

NCM104-18/RLE104-18 COMMUNITY HEALTH NURSING 1 (CHN I)/ RELATED LEARNING EXPERIENCES (CHN I)

2 units Lec / 2 units RLE (102 hrs)

This course deals with concepts, principles, theories, and techniques in the provision of basic care in terms of health promotion, disease prevention, restoration and maintenance, and rehabilitation at the individual and family level. It includes the study of the Philippine Health Care Delivery System, the national health situation, and the global context of public health. The learners are expected to provide safe, appropriate, and holistic nursing care to individuals and their families as clients in a community setting, utilizing the nursing process. The learners are anticipated to have a wide range of opportunities for holistic engagement in the learning process and application of the Sustainable Development Goals beyond SDG 3 (Ensure Healthy Lives and Promote Well-Being) through careful planning of didactic and laboratory experiences and supporting transformative learning. *Pre-req: NCM103-18; RLE 103-18; Co-req: RLE 104-18/ NCM 104-18*

NCM105-18 / NCM105L-18 NUTRITION AND DIET THERAPY LECTURE / LABORATORY

2 units Lec / 1 unit Lab

This course deals with the study of food in relation to health and illness. It covers nutrients and other substances and their action, interaction, and balance in relation to health and diseases, as well as the process by which the human body ingests, digests, absorbs, transports, utilizes, and excretes food substances. It also focuses on the therapeutic and food service aspects of the delivery of nutritional services in hospitals and other healthcare institutions. The learners are expected to develop competencies in appropriate meal planning and education for a given client. Beyond SDG 3 (Ensure Healthy Lives and Promote Well-Being), learners are anticipated to have numerous opportunities for holistic engagement in the learning and implementation of the Sustainable Development Goals through the careful planning of didactic and laboratory experiences and support for transformative learning. *Pre-req: NCM103-18; RLE103-18; Co-req: NCM105L-18*

NCM106-18 – PHARMACOLOGY

3 units Lec

This course deals with the pharmacodynamics, pharmacokinetics, and clinical/therapeutic uses of drugs in health promotion, disease prevention, restoration and maintenance, and rehabilitation of clients across the lifespan, utilizing the nursing process. Emphasis is given to the nursing responsibilities related to safe drug administration through medication monitoring and client education. It also includes complementary and alternative therapies. The learners are expected to develop beginning skills in the safe administration of medication. Through careful planning of didactic experiences and encouragement of transformative learning, learners should have numerous opportunities for holistic engagement in learning beyond SDG 3 (Ensure Healthy Lives and Promote Well-Being). *Pre-req: NCM103-18; Co-req: RLE103-18*

NCM107-18/ RLE107-18 CARE OF MOTHER, CHILD, AND ADOLESCENT (WELL CLIENT) / RELATED LEARNING EXPERIENCES (MCN I)

4 units Lec / 5 units RLE (255 hrs)

This course deals with concepts, principles, theories, and techniques in the nursing care of individuals and families during childbearing and childrearing years toward health promotion, disease prevention, restoration and maintenance, and rehabilitation. The learners are expected to provide safe, appropriate, and holistic nursing care to clients utilizing the nursing process. The learners are anticipated to have numerous opportunities for holistic engagement in learning and implementation of the Sustainable Development Goals beyond SDG 3 (Ensure Healthy Lives and Promote Well-Being) through careful planning of didactic and laboratory experiences and supporting transformative learning. *Pre-req: NCM103-18; RLE103-18; Co-req: RLE107-18*

NCM108-18 - HEALTH CARE ETHICS

3 units Lec

This course deals with the application of ethico-moral and legal concepts and principles to issues that affect the practice of nursing. These provide the basis for appropriate decision making given varied situations, and prepare the learner to render effective, efficient, and safe nursing care. Furthermore, related learning experiences provide opportunities to concretize a commitment to nursing. The critical thinking process shall be used in the unit with the object of developing the intellectual capacity to conceptualize and contextualize

students know in relation to ethico-moral and legal issues. Through thoughtful planning of didactic experiences and supporting transformative learning, it is anticipated that the learners will have many opportunities for holistic engagement in learning and implementation of the Sustainable Development Goals beyond SDG 3 (Ensure Healthy Lives and Promote Well-Being). *Pre-req: NCM103-18; RLE103-18; Co-req: None*

NCM109-18/ RLE109-18 CARE OF MOTHER AND CHILD AT RISK OR WITH PROBLEMS (ACUTE AND CHRONIC)/ RELATED LEARNING EXPERIENCES (MCN II) OBSTETRIC NURSING
6 units Lec / 6 units RLE (306 hrs)

This course deals with concepts, principles, theories, and techniques in the nursing care of at risk/high risk/sick clients during childbearing and childrearing years toward health promotion, disease prevention, restoration and maintenance, and rehabilitation. The learners are expected to provide safe, appropriate, and holistic nursing care to clients utilizing the nursing process. Through thoughtful planning of didactic and laboratory experiences and supporting transformative learning, it is anticipated that the learners will have many opportunities for holistic engagement in learning and implementation of the Sustainable Development Goals beyond SDG 3 (Ensure Healthy Lives and Promote Well-Being). *Pre-req: NCM107-18; RLE107-18; Co-req: None*

NCM110-18/NCM110L-18 NURSING INFORMATICS LECTURE/ LABORATORY   2 units Lec / 1 unit Lab

This course deals with the use of information technology systems and data standards based on nursing informatics principles/theories. It further deals with the utilization of clinical information systems in the management and decision-making of patient care. A laboratory session shall be provided for practice application. Through careful planning of didactic and laboratory experiences and supporting transformative learning, the learners are expected to have many opportunities for holistic engagement with the Sustainable Development Goals beyond SDG 3 (Ensure Healthy Lives and Promote Well-Being) *Pre-req: NCM108-18; Co-req: None*

NCM111-18/RLE111-18 NURSING RESEARCH 1/ RLE-NURSING RESEARCH I
2 units Lec / 1 unit RLE (51 hrs)

This course deals with concepts, principles, theories, and techniques in the application of the major phases of the nursing research process. It introduces the nurse's beginning role as a researcher. The learners are expected to develop a technically and ethically sound research proposal. Through careful planning of didactic and laboratory experiences and supporting transformative learning, the learners are expected to make a research study that can contribute to the Sustainable Development Goals beyond SDG 3 (Ensure Healthy Lives and Promote Well-Being). *Pre-req: NCM108-18; Co-req: None*

NCM112-18/RLE112-18 CARE OF CLIENTS WITH PROBLEMS IN OXYGENATION, FLUIDS AND ELECTROLYTE, INFECTIOUS, INFLAMMATORY AND IMMUNOLOGIC RESPONSE, CELLULAR ABERRATION, ACUTE AND CHRONIC/ RELATED LEARNING EXPERIENCES (MS I)
8 units Lec / 6 units RLE (306 hrs)

This course deals with concepts, principles, theories, and techniques of nursing care management of at risk and sick adult clients in any setting with alterations/problems in oxygenation, fluid, and electrolytes,

infectious, inflammatory, and immunologic responses, and cellular aberrations, acute and chronic. The learners are expected to provide nursing care to at risk and sick adult clients by utilizing the nursing process. Through thoughtful planning of didactic and laboratory experiences and supporting transformative learning, it is anticipated that the learners will have many opportunities for holistic engagement in learning and implementation of the Sustainable Development Goals beyond SDG 3 (Ensure Healthy Lives and Promote Well-Being). *Pre-req: NCM109-18; RLE 109-18; Co-req: None*

NCM113-18/RLE113-18 - COMMUNITY HEALTH NURSING II: POPULATION GROUPS AND COMMUNITY AS CLIENTS/ RELATED LEARNING EXPERIENCES (CHN II)

2 units Lec / 1 unit RLE (51 hrs)

This course focuses on the care of population groups and communities as clients, utilizing concepts and principles in community health development. It also describes trends, issues, and challenges in the Philippine and global health care systems affecting community health nursing practice. Through thoughtful planning of didactic and laboratory experiences and supporting transformative learning, it is anticipated that the learners will have many opportunities for holistic engagement in learning and implementation of the Sustainable Development Goals beyond SDG 3 (Ensure Healthy Lives and Promote Well-Being). *Pre-req: NCM104-18; RLE104-18; Co-req: None*

NCM114-18/RLE114-18- CARE OF THE OLDER ADULTS/ RELATED LEARNING EXPERIENCES (COP)

2 units Lec / 1 unit RLE (51 hrs)

This course deals with the concepts, principles, theories, and techniques of nursing care management for older adults. The learners are expected to provide nursing care to at risk and sick older adult clients by utilizing the nursing process. Beyond SDG 3 (Ensure Healthy Lives and Promote Well-Being), learners are anticipated to have numerous opportunities for holistic engagement in learning and application of the Sustainable Development Goals through the careful planning of didactic and laboratory experiences and support for transformative learning. *Pre-req: NCM109-18; RLE109-18; Co-req: None*

NCM115-18/RLE115-18- Nursing Research II   1 unit Lec / 2 units RLE (102 hrs)

This course deals with the application of concepts, principles, theories, and techniques in the major phases of the nursing research process. This includes the collection, analysis, interpretation, and presentation of data, conclusions, and recommendations. The learners are expected to produce and disseminate a technically and ethically sound research study. The learners are anticipated to have numerous opportunities for comprehensive learning and application of the Sustainable Development Goals beyond SDG 3 (Ensure Healthy Lives and Promote Well-Being) through careful planning of didactic and laboratory experiences and supporting transformative learning. *Pre-req: NCM111-18; RLE111-18; Co-req: None*

NCM116-18/RLE116-18 - CARE OF CLIENTS WITH PROBLEMS IN NUTRITION, GASTROINTESTINAL, METABOLISM AND ENDOCRINE, PERCEPTION AND COORDINATION, ACUTE AND CHRONIC/ RELATED LEARNING EXPERIENCES (MS II)   **5 units Lec / 4 units RLE (204 hrs)**

This course deals with concepts, principles, theories, and techniques of nursing care of at-risk and sick adult clients in any setting with alterations/problems in nutrition, gastrointestinal, metabolic, and endocrine, perception, and coordination, acute and chronic, toward health promotion, disease prevention, restoration, maintenance, and rehabilitation.

The learners are expected to provide safe, appropriate, and holistic nursing care to at-risk and sick adult clients by utilizing the nursing process. Beyond SDG 3 (Ensure Healthy Lives and Promote Well-Being), learners are anticipated to have numerous opportunities for holistic engagement in learning and application of the Sustainable Development Goals through the careful planning of didactic and laboratory experiences and support for transformative learning. *Pre-req: NCM112-18; RLE112-18; Co-req: None*

NCM117-18/RLE117-18- CARE OF CLIENTS WITH MALADAPTIVE PATTERNS OF BEHAVIOR, ACUTE AND CHRONIC/ RELATED LEARNING EXPERIENCES (PSYCH)   4 units Lec / 4 units RLE (204 hrs)

This course deals with concepts, principles, theories, and techniques of nursing care management of clients with maladaptive patterns of behavior of individuals, families, population groups and communities, across the life span, in any health care setting. The learners are expected to provide safe, appropriate, evidence-based, holistic, and individualized care to meet the full range of needs of the clients experiencing psychiatric emergencies and /or those with mental health alteration/s through the principles and cultural/ ethnic sensitivities. The learners are anticipated to have a wide range of opportunities for holistic engagement in learning and application of the Sustainable Development Goals beyond SDG 3 (Ensure Healthy Lives and Promote Well-Being) through careful planning of didactic and laboratory experiences and supporting transformative learning. *Pre-req: NCM112-18; RLE112-18; Co-req: None*

NR002 - GENETICS AND GENOMICS IN NURSING   2 units Lec

This course deals with the concepts, principles, theories, and techniques of nursing care management in genetics and genomics, from primary care to oncology and critical care, with an emphasis on the associated ethical, legal, and social implications of its clinical advancements. The learners are expected to explain fundamental genetic and genomic concepts, conduct a comprehensive family medical history assessment, apply genomic concepts and testing methodologies into standard practice related to risk, diagnosis, and treatment, identify implications of genomic testing results, incorporate genomics into patient-focused health teaching and health promotion strategies and examine ethical, legal, and social implications (ELSI) surrounding genomics and genetic testing, including privacy and confidentiality of genomic data. The learners are anticipated to have numerous opportunities for comprehensive engagement in learning and applying the Sustainable Development Goals beyond SDG 3 (Ensure Healthy Lives and Promote Well-Being) through careful planning of didactic experiences and supporting transformative learning. *Pre-req: NCM109-18; RLE109-18; Co-req: None*

NCM118-18/RLE118-18 - NURSING CARE OF CLIENTS WITH LIFE-THREATENING CONDITIONS/ACUTELY ILL/MULTI-ORGAN PROBLEMS/HIGH ACUITY AND EMERGENCY SITUATIONS, ACUTE AND CHRONIC/ RELATED LEARNING EXPERIENCES (EN)

4 units Lec / 5 units RLE (255 hrs)

This course deals with concepts, principles, theories, and techniques of nursing care for sick adult clients with life threatening conditions, acute ill,/multi multiorgan problems, high acuity, and emergency situations toward health promotion, disease prevention, restoration and maintenance, and rehabilitation. The learners are expected to provide safe, appropriate, and holistic nursing care to groups of clients with health problems and special needs, utilizing the nursing process. Through careful planning of didactic and laboratory experiences and supporting transformative learning, the learners are expected to have many opportunities for holistic

engagement in learning and implementing the Sustainable Development Goals beyond SDG 3 (Ensure Healthy Lives and Promote Well-Being) *Pre-req: NCM117-18; RLE117-18; Co-req: None*

NCM119-18/RLE119-18 - NURSING LEADERSHIP AND MANAGEMENT/ RELATED LEARNING EXPERIENCES (NLM)
4 units Lec / 3 units RLE (153 hrs)

The course is designed to apply the concepts, theories, principles, functions, and processes of leadership and management guided by legal and ethical imperatives of health and nursing. Given individuals, families, population groups, and communities with physiologic health problems and special needs, the learners demonstrate competence in integrating the concepts, theories, principles, and processes of leadership and management, guided by the latest evidence, ethico-legal, moral, and professional imperatives of nursing practice, and imbued with the attributes of a Letranite nurse leader-manager. By carefully planning didactic and laboratory experiences and fostering transformative learning, it is anticipated that the learners will have many opportunities for comprehensive engagement in leading and managing programs and projects for the achievement of Sustainable Development Goals beyond SDG 3 (Ensure Healthy Lives and Promote Well-Being). *Pre-req: NCM117-18; RLE117-18; Co-req: None*

NCM120-18- DECENT WORK EMPLOYMENT AND TRANSCULTURAL NURSING
3 units Lec

This course deals with concepts and principles from different standards and laws to direct the profound learning of professional nursing concepts in order to develop in each student the role of a beginning professional nurse. With given case scenarios, students will explore and apply professional nursing concepts and, through these, create opportunities to help the student be a globally competitive professional nurse. The course focuses on professional, legal, and ethico-moral concepts and practice standards of the nursing profession, with an emphasis on the discussion and understanding of the Philippine Nursing Act of 2002 (R.A. 9173). It also involves the protection of the nurse's fundamental rights as a worker in terms of work safety and compensation, as well as bodily and mental integrity while doing his or her duties.

This course will explore ideas, concepts, attitudes, and standards relevant to culturally diverse clients' care. The impact of culture on people, communities, and organizations' attitudes, values, and practices in connection to health, diseases, and health-seeking behaviors will be investigated.

The learners are anticipated to have numerous opportunities for holistic engagement in creating culturally aligned programs and projects for the attainment of the Sustainable Development Goals beyond SDG 3 (Ensure Healthy Lives and Promote Well-Being) through careful planning of didactic and laboratory experiences and supporting transformative learning. *Pre-req: NCM119-18; RLE119-18; Co-req: None*

NCM121-18/RLE121-18 - DISASTER NURSING/ RELATED LEARNING EXPERIENCES (DN)
2 units Lec / 1 unit RLE (51 hrs)

This course deals with the application of concepts, principles, theories, techniques, and strategies in disaster risk reduction and management to groups of clients in any setting. The learners are expected to demonstrate safe, appropriate, and holistic care to clients, utilizing the nursing process to reduce the risk of disaster to help save lives and build resilience based upon the International Council of Nurses (ICN) competencies for Disaster Nursing and the Centers for Disease Control and Prevention (CDC) competencies for Public Health Emergency Preparedness. The learners are anticipated to have numerous opportunities for holistic engagement during disasters in the achievement of the Sustainable Development Goals beyond SDG 3

(Ensure Healthy Lives and Promote Well-Being). *Pre-req: NCM118-18; RLE118-18; Co-req: None*

NR012 - PALLATIVE AND END OF LIFE NURSING
2 units Lec

This course deals with concepts, principles, theories, and techniques for providing holistic and high quality nursing care for the complex needs of patients with advanced serious illness or nearing death in various healthcare settings. The learners are expected to demonstrate comprehensive assessment and management of current challenges in palliative care, including the physical, psychological, social, and spiritual/existential sources of suffering experienced by patients and their families. Beyond SDG 3 (Ensure Healthy Lives and Promote Well-Being), learners are anticipated to have numerous opportunities for holistic engagement in the achievement of the Sustainable Development Goals through thoughtful planning of didactic experiences and supporting transformative learning. *Pre-req: NCM118-18; rle118-18; Co-req: None*

NR023- NURSING ENTREPRENEURSHIP AND SUSTAINABLE INNOVATIONS
3 units Lec

The course is designed to apply the concepts, theories, principles, functions, and processes of entrepreneurship in nursing. The learners are expected to identify opportunities and create new ventures; apply the analytic skills that are needed to practice this approach; and have the background knowledge and managerial skills that are necessary for dealing with the recurring issues involved in starting, growing, and harnessing the value of new ventures. The learners should have numerous opportunities for holistic engagement in achieving the Sustainable Development Goals beyond SDG 3 (Ensure Healthy Lives and Promote Well-Being) through careful planning of didactic experiences and supporting transformative learning. *Pre-req: NCM119-18; RLE119-18; Co-req: None*

PHL093N- LOGIC AND CRITICAL THINKING
3 units Lec

The course introduces the fundamental principles, laws, and methods of correct thinking and provides a brief survey of the historical background of philosophy. The course includes the three fundamental operations of the mind: simple apprehension, judgment, and reasoning, as well as the eight syllogistic rules. The learners are expected to apply critical thinking to independent and interdependent decision-making in various health settings in nursing. The didactic experiences should provide the learner with the knowledge and skills to: use nursing and other appropriate theories and models and an appropriate ethical framework; apply research-based knowledge from nursing and the sciences as the basis for practice; use clinical judgment and decision-making skills; engage in self-reflective and collegial dialogue about professional practice; evaluate nursing care outcomes through the acquisition of data and the questioning of inconsistencies, allowing for the revision of actions and goals; engage in creative problem solving. *Pre-req: None; Co-req: NCM121-18*

SCHOOL OF COMPUTER STUDIES AND TECHNOLOGY

Vision

The School of Computer Studies and Technology envisions itself as Center of Development in Information Technology Education before 2029, sustaining its commitment by producing faith-centered, competitive, and technically skilled students.

Mission

The school commits itself to holistically develop students' ICT computing skills and other stakeholders' professional competencies for their productive careers that will continuously contribute to the development of the country through technological leadership that is Dominican orientation.

PROGRAM DESCRIPTION

Bachelor of Science in Computer Science Specializing in Data Science (BSCS-DS) includes the study of computing concepts, algorithms, programming, advanced mathematics, statistics and probability, artificial intelligence, machine learning, data visualization, data science, and emerging technologies in computing. The students under this program would be able to create algorithmically complex software through the combination of tools, methods, and technology that will help derive valuable insights that will empower organizations to make sustainable and smarter data-driven decisions

Career Options
- Data Scientist
- Data Analyst
- Business Intelligence Analyst
- Database Administrator
- Machine Learning Engineer
- Computer Science Professor
- Software Quality Assurance Engineer
- Software Engineer
- Software Developer
- Computer Programmer

Certification Programs embedded in the curriculum
- Microsoft Excel Associate
- Information Technology Specialist in Python
- Information Technology Specialist in Artificial Intelligence
- Information Technology Specialist in Networking
- Information Technology Specialist in Databases
- IT Specialist Certification in HTML and CSS
- IT Specialist Certification in JAVA

Program Educational Objectives

Three to five years after graduation, the BS Computer Science Specializing in Data Science (BSCS-DS) alumni shall:
1. Advance their practice in the field of Computer Science;
2. Assume a higher level of responsibility in the same or related field;
3. Manifest proper ethical principles and values founded on a Filipino, Dominican and Christian orientation; and
4. Continually pursue lifelong learning endeavors.

Program Outcomes and Performance Indicators

Upon completion of BS Computer Science Specializing in Data Science (BSCS-DS), the graduate, who is trained in a culture of conscience and excellence with Filipino, Dominican, and Christian in orientation, must be able to:

Program Outcomes	Performance Indicators
1. Articulate and discuss the latest developments in the specific field of practice	• Engage in continual learning in one's specialization
2. Act in recognition of professional, social, and ethical responsibility	• Maintain stature and behavior that uphold the Professional Code of Ethics • Immerse in an actual working environment in industry
3. Preserve and promote Filipino historical and cultural heritage (based on RA No. 7722)	• Demonstrate responsible Filipino citizenship in local, national or international communities

4. Participate in various types of employment, development activities, and public discourses, particularly in response to the needs of the communities one serves	• Plan and take action for the welfare of the community • Continually engage oneself in development projects and activities that address the community needs
5. Manifest strong commitment and conviction to the Christian and Dominican teachings and philosophy in thoughts, words, and deeds	• Observe the Dominican values of study, prayer, community, and service • Uphold ecological consciousness and engage in environmental stewardship • Participate actively in the community's spiritual and social advocacy or extension program
6. Analyze complex problems and identify and define the computing requirements needed to design an appropriate solution	• Formulate and decompose a problem into appropriate components. • Identify and formulate software and hardware requirements specifications. • Estimate resources required for the proposed solution
7. Apply computing and other knowledge domains to address real-world problems	• Use computing theories and studies to create a solution that can address real world computing problems. • Use other related knowledge domains to create a solution that can address real world computing problems

8. Design and develop computing solutions using a system level perspective	• Explain trends and directions of computer systems • Identify constraints on design problems and establish criteria for acceptability of solutions; implement and evaluate solutions • Use testing and debugging methods to • Ensure program correctness and completeness
9. Utilize modern computing tools	• Use integrated development environment in developing software • Demonstrate competence with the use of multiple modern platforms for computing and development
10. Apply knowledge of computing fundamentals, knowledge of a computing specialization, and mathematics, science, and domain knowledge appropriate for the computing specialization to the abstraction and conceptualization of computing models, from defined problems and requirements	• Complete and successfully defend Thesis in line with the discipline • Demonstrate competence in analyzing computing problems to implement and evaluate solutions • Utilize techniques appropriate to the abstraction and conceptualization of computing solutions
11. Identify, analyze, formulate, research literature, and solve complex computing problems and requirements reaching	• Document software/hardware requirements specifications following computing industry standards • Read and critically evaluate papers in

substantiated conclusions using fundamental principles of mathematics, computing sciences and relevant domain disciplines	the professional literature and state research questions
12. Apply mathematical foundations, algorithmic principles, and computer science theory in the modeling and design of computer based systems, in a way that demonstrates comprehension of the tradeoffs involved in design choices	• Demonstrate an ability to apply mathematical foundations in the modeling and design of computer-based systems • Demonstrate an ability to apply algorithmic principles in the modeling and design of computer-based systems • Demonstrate an ability to apply computer science theory in the modeling and design of computer-based systems • Demonstrate an understanding of tradeoffs involved in design choices
13. Apply knowledge and understanding of information security issues in relation to the design, development and use of information systems	• Describe set of controls and process both technical and policy intended to protect and defend information and information systems by ensuring their availability, integrity, authentication, and confidentiality • Articulate the strengths and weaknesses associated with different approaches to security to the validity of current and past processes of data

14. Design and evaluate solutions for complex computing problems, and design and evaluate systems, components, or processes that meet specified needs with appropriate consideration for public health and safety, cultural, societal, and environmental considerations	- Design and develop a computing solution using object-oriented approach - Explain trends and directions of computer systems - Identify constraints on design problems and establish criteria for acceptability of solutions; implement and evaluate solutions
15. Create, select, adapt, and apply appropriate techniques, resources and modern computing tools, to complex computing activities, with an understanding of the limitations to accomplish a common goal	- Use an integrated development environment - Demonstrate familiarization of current trends and technologies by describing its possible applications - Select and use variety of programming languages and assess its suitability concerning to a given problem domain
16. Function effectively as an individual and as a member or leader in diverse teams, and in multidisciplinary settings	- Work in a group to develop a machine project - Perform well as a team leader or member in any kind of group project or activity - Perform independently and cooperatively to accomplish worthwhile goals - Work together with a team to create a - solution to a computational problem

17. Communicate effectively with the computing community and with society at large about complex computing activities, by being able to comprehend and write effective reports, design documentation, make effective presentations, and give and understand clear instructions	• Present a proposed solution in class or in a public forum • Express oneself clearly in verbal or written forms the updates in one's career or vocation • Defend satisfactorily his/her thesis/capstone project from a panel of experts • Prepare and demonstrate documents and presentation materials that clearly convey information appropriate to peers and technical audiences
18. Recognize the legal, social, ethical and professional issues involved in the utilization of computer technology and be guided by the adoption of appropriate professional, ethical, and legal practices	• Immerse in an actual working environment in an industry • Recognize and describe current issues in information security and intellectual property • Demonstrate professional ethics and practices in assessing the implications of Information Technology policies. • Apply code of ethics in making judgments regarding the issues involved in the use of computer technology
19. Recognize the need, and have the ability to engage in independent learning for continual development as computing professional	• Create a report on a conducted independent learning activity • Demonstrate recognition of the need for continuing professional development • Demonstrate familiarity with means for continuing professional development • Students will demonstrate ability to independently identify and assimilate new information

BACHELOR OF SCIENCE IN COMPUTER SCIENCE SPECIALIZING DATA SCIENCE
GENERAL SUMMARY OF COURSES

I. General Education Courses
A. Core Courses   24
GEC003	Understanding the Self	3
GEC013	Science, Technology, and Society	3
GEC023	Mga Babasahin Hinggil sa Kasaysayan ng Pilipinas	3
GEC033	Mathematics in the Modern World	3
GEC043	The Contemporary World	3
GEC053	Art Appreciation	3
GEC063	Purposive Communication	3
GEC073	Ethics	3

B. CHED Mandated Courses   26
a. Rizal Course
RZL023	Buhay at Mga Akda ni Rizal	3

b. Physical Education Courses
PATHFIT1002	Movement Competency Training	2
PATHFIT2022	Exercise Based Fitness Activities	2
PATHFIT3032	Individual/Dual Sports	2
PATHFIT4042	Contemporary Dance	2

c. National Service Training Program
NSTP1-18	National Service Training Program 1	3
NSTP2-18	National Service Training Program 2	3

d. GENED Elective Courses
GECELEC1	Living in the IT Era	3
GECELEC2	The Entrepreneurial Mind	3
GECELEC3	Philippine Popular Culture	3

C. Institutional Mandated Courses   18
a. Religious Education Courses
RELED053	The Catholic Christian Faith	3
RELED063	Contemporary Issues in Christian Marriage	3
RELED073	Contemporary Issues About Church and Human Society with Immersion	3
RELED083	Christian Ethics	3

b. Letran Quality Enrichment Courses
LQEC23-013	Letran Quality Enhancement Course I (Letran Calamba Identity and 21st Century Learning Skills)	3
LQEC23-023	Letran Quality Enhancement Course II (21st Century Literacy Skills & Life Skills and Sustainability)	3

II. Professional Courses
A. Common Computing Courses   18
COMP302-23	Introduction to Computing	2
COMP301L-23	Introduction to Computing Lab	1
COMP312	Computer Programming I	2
COMP311L	Computer Programming I Lab	1
COMP332	Computer Programming II	2
COMP331L	Computer Programming II Lab	1
COMP112	Information Management	2
COMP111L	Information Management Lab	1

COMP462	Applications Development and Emerging Technologies	2
COMP461L	Applications Development and Emerging Technologies Lab	1
COMP042	Data Structures and Algorithms	2
COMP041L	Data Structures and Algorithms Lab	1

B. Professional Courses   **53**

CSIT323A-23	Introduction to Discrete Structures	3
CSIT153-23	Computer Algorithms and Complexity	3
CS323B-23	Advance Discrete Structures	3
CSIT332	Intro to Human Computer Interaction	2
CSIT331L	Intro to Human Computer Interaction Lab	1
CSIT362	Object-Oriented Programming	2
CSIT361L	Object-Oriented Programming Lab	1
CSIT142A	Software Engineering I	2
CSIT141A-L-2:	Software Engineering I Lab (Mobile Programming 1)	1
CSIT163-23	Computer Architecture and Organization	3
CSIT252-23	Fundamentals of Networking	2
CSIT251L-23	Fundamentals of Networking Lab	1
CSIT142B	Software Engineering II	2
CSIT141B-L-2:	Software Engineering II Lab (Mobile Programming 2)	1
CSIT392	Programming Languages	2
CSIT391L-23	Programming Languages Lab (Python Programming)	1
CSIT343	Fundamentals of Information Assurance and Security	3
CSIT192	Operating Systems	2
CSIT191L	Operating Systems Lab	1
CSIT273	Automata Theory and Formal Languages	3
CSIT183	Social Issues and Professional Practice	3
CS-THS1	CS Thesis I	3
CS-THS2	CS Thesis II	3
CS-PRC5	Internship (500 hrs)	5

C. Data Science Courses   **27**

CSDS003	Matrix Algebra	3
CSDS013	Calculus	3
CSDS031L	Data Analysis and Visualization Lab	1
CSDS032	Data Analysis and Visualization	2
CSDS041L	Advanced Python Programming Lab	1
CSDS042	Advanced Python Programming	2
CSDS051L	Introduction to Machine Learning Lab	1
CSDS052	Introduction to Machine Learning	2
CSDS061L	Advance Machine Learning Lab	1
CSDS062	Advance Machine Learning	2
CSDS071AL	Data Science I Lab	1
CSDS071BL	Data Science II Lab	1
CSDS072A	Data Science I	2
CSDS072B	Data Science II	2
CSDS283	Artificial Intelligence	3

D. Elective Courses 9
    CSElec-1   CS Elective 1   3
    CSElec-2   CS Elective 2   3
    CSElec-3   CS Elective 3   3
E. Additional Math Courses 3
    MATH293   Probability and Statistics   3

TOTAL UNITS   **178**

BACHELOR OF SCIENCE IN COMPUTER SCIENCE
Specializing in Data Science
Curriculum Year 2023-2024

Course Code	Course Title	Lec Units/Hrs	Lab Units	Hrs	Total	PRE-REQUISITES/ CO-REQUISITES
FIRST YEAR, First Semester						
COMP301L-23	Introduction to Computing Lab		1	3	*1*	co-req COMP302-23
COMP302-23	Introduction to Computing	2			*2*	co-req COMP301L-23
COMP311L	Computer Programming I Lab		1	3	*1*	co-req COMP312
COMP312	Computer Programming I	2			*2*	co-req COMP311L
CSIT323A-23	Introduction to Discrete Structures	3			*3*	co-req MATH293
CSIT331L	Intro to Human Computer Interaction Lab		1	3	*1*	co-req CSIT332
CSIT332	Intro to Human Computer Interaction	2			*2*	co-req CSIT331L
GEC003	Understanding the Self	3			*3*	
GEC033	Mathematics in the Modern World	3			*3*	
LQEC23-013	Letran Quality Enhancement Course I (Letran Calamba Identity and 21st Century Learning Skills)	3			*3*	
MATH293	Probability and Statistics	3			*3*	co-req CSIT323A-23, GEC033
	Total	**21**	**3**	**9**	**24**	
FIRST YEAR, Second Semester						
COMP041L	Data Structures and Algorithms Lab		1	3	*1*	co-req COMP042
COMP042	Data Structures and Algorithms	2			*2*	co-req COMP041L
COMP331L	Computer Programming II Lab		1	3	*1*	COMP312, COMP311L, co-req COMP332
COMP332	Computer Programming II	2			*2*	COMP312, COMP311L co-req COMP331L
CS323B-23	Advance Discrete Structures	3			*3*	CSIT323A-23
CSDS031L	Data Analysis and Visualization Lab		1	3	*1*	COMP302-23, COMP301L-23, co-req CSDS032
CSDS032	Data Analysis and Visualization	2			*2*	COMP302-23, COMP301L-23, co-req CSDS031L
GEC053	Art Appreciation	3			*3*	
GEC063	Purposive Communication	3			*3*	
NSTP1-18	National Service Training Program 1	3			*3*	
PATHFIT1002	Movement Competency Training	2			*2*	
RELED053	The Catholic Christian Faith	3			*3*	
	Total	**23**	**3**	**9**	**26**	
SECOND YEAR, First Semester						
COMP111L	Information Management Lab		1	3	*1*	COMP312, COMP311L, co-req COMP112
COMP112	Information Management	2			*2*	COMP312, COMP311L, co-req COMP111L
CSDS003	Matrix Algebra	3			*3*	MATH293, CS323B-23
CSDS283	Artificial Intelligence	3			*3*	COMP042, COMP041L
CSIT153-23	Computer Algorithms and Complexity	3			*3*	COMP042, COMP041L
CSIT361L	Object-Oriented Programming Lab		1	3	*1*	COMP332, COMP331L, co-req CSIT362
CSIT362	Object-Oriented Programming	2			*2*	COMP332, COMP331L, co-req CSIT361L

Course Code	Course Title	Lec Units/Hrs	Lab Units	Lab Hrs	Total	PRE-REQUISITES/ CO-REQUISITES
CSIT391L-23	Programming Languages Lab (Python Programming)		1	3	1	CSDS032, CSDS031L, co-req CSIT392
CSIT392	Programming Languages	2			2	CSDS032, CSDS031L, co-req CSIT391L-23
NSTP2-18	National Service Training Program 2	3			3	NSTP1-18
PATHFIT2022	Exercise Based Fitness Activities	2			2	PATHFIT1002
RELED063	Contemporary Issues in Christian Marriage	3			3	RELED053
	Total	23	3	9	26	

SECOND YEAR, Second Semester

Course Code	Course Title	Lec Units/Hrs	Lab Units	Lab Hrs	Total	PRE-REQUISITES/ CO-REQUISITES
CSDS041L	Advanced Python Programming Lab		1	3	1	CSIT392, CSIT391L-23, Co-req CSDS042
CSDS042	Advanced Python Programming	2			2	CSIT392, CSIT391L-23, Co-req CSDS041L
CSDS051L	Introduction to Machine Learning Lab		1	3	1	CSIT153-23, CSDS283, co-req CSDS052
CSDS052	Introduction to Machine Learning	2			2	CSIT153-23, CSDS283, co-req CSDS051L
CSElec-1	CS Elective 1	3			3	CSIT153-23
CSIT141A-L-23	Software Engineering I Lab (Mobile Programming I Lab)		1	3	1	COMP112, COMP111L, co req CSIT142A
CSIT142A	Software Engineering I	2			2	COMP112, COMP111L, co req CSIT141A-L-23
CSIT163-23	Computer Architecture and Organization	3			3	CSIT153-23, co-req CSIT252-23, CSIT251L-23
CSIT251L-23	Fundamentals of Networking Lab		1	3	1	co-req CSIT252-23, CSIT163-23
CSIT252-23	Fundamentals of Networking	2			2	co-req CSIT251L-23, CSIT163-23
GECELEC1	Living in the IT Era	3			3	
PATHFIT3032	Individual/Dual Sports	2			2	PATHFIT1002, PATHFIT2022
RELED083	Christian Ethics	3			3	RELED053
	Total	22	4	12	26	

THIRD YEAR, First Semester

Course Code	Course Title	Lec Units/Hrs	Lab Units	Lab Hrs	Total	PRE-REQUISITES/ CO-REQUISITES
COMP461L	Applications Development & Emerging Technologies Lab		1	3	1	CSIT142A, CSIT141A-L-23, co req COMP462
COMP462	Applications Development & Emerging Technologies	2			2	CSIT142A, CSIT141A-L-23, co req COMP461L
CSDS013	Calculus	3			3	CSDS003
CSDS061L	Advance Machine Learning Lab		1	3	1	CSDS052, CSDS051L, co-req CSDS062
CSDS062	Advance Machine Learning	2			2	CSDS052, CSDS051L, co-req CSDS061L
CSDS071AL	Data Science I Lab		1	3	1	CSDS042, CSDS041L, co-req CSDS072A
CSDS072A	Data Science I	2			2	CSDS042, CSDS041L, co-req CSDS071AL
CSIT141B-L-23	Software Engineering II Lab (Mobile Programming II)		1	3	1	CSIT142A, CSIT141A-L-23, co-req CSIT142B
CSIT142B	Software Engineering II	2			2	CSIT142A, CSIT141A-L-23, co-req CSIT141B-L-23 CSIT252-23, CSIT251L-23
CSIT343	Fundamentals of Information Assurance and Security	3			3	
PATHFIT4042	Contemporary Dance	2			2	PATHFIT1002, PATHFIT2022
RELED073	Contemporary Issues About Church and Human Society with Immersion	3			3	RELED053

THIRD YEAR, Second Semester

Course Code	Course Title	Lec Units/Hrs	Lab Units	Lab Hrs	Total	PRE-REQUISITES/ CO-REQUISITES
CSDS071BL	Data Science II Lab		1	3	1	CSDS072A, CSDS071AL, co-req CSDS072B
CSDS072B	Data Science II	2			2	CSDS072A, CSDS071AL, co-req CSDS071BL
CSElec-2	CS Elective 2	3			3	CSElec-1
CSIT191L	Operating Systems Lab		1	3	1	CSIT142B, CSIT141B-L-23, co req CSIT192

Code	Title					Prerequisites
CSIT192	Operating Systems	2			2	CSIT142B, CSIT141B-L-23, co req CSIT191L
CSIT273	Automata Theory and Formal Languages	3			3	CSDS062, CSDS061L
CS-THS1	CS Thesis I	3			3	CSIT142B, CSIT141B-L-23
GEC073	Ethics	3			3	
GECELEC3	Philippine Pop Culture	3			3	
LQEC23-023	Letran Quality Enrichment Course II (21st Century Literacy Skills & Life Skills and Sustainability)	3			3	LQEC23-013
	Total	22	2	6	24	

FOURTH YEAR, First Semester

Code	Title					Prerequisites
CSElec-3	CS Elective 3	3			3	CSElec-2
CSIT183	Social Issues and Professional Practice	3			3	CSDS072B, CSDS071BL
CS-THS2	CS Thesis II	3			3	CS-THS1
GEC013	Science, Technology, and Society	3			3	
GEC023	Mga Babasahin Hinggil sa Kasaysayan ng Pilipinas	3			3	
GEC043	Contemporary World	3			3	
GECELEC2	The Entrepreneurial Mind	3			3	
RZL023	Buhay at Mga Akda ni Rizal	3			3	
	Total	24	0	0	24	

FOURTH YEAR, Second Semester

Code	Title					Prerequisites
CS-PRC5	*Internship (500 hrs)	5			5	CS-THS2
	Total	5	0	0	5	

| | GRAND TOTAL | 159 | 19 | 57 | 178 | |

Professional Electives

Internet of Things

BlockChain Technology

Web Technologies

Cybersecurity

Cloud Computing

Technopreneurship

Robotic Process Automation

Virtual Reality and Augmented Reality

Practicum/Internship - No simultaneous enrolment is allowed.

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COURSE DESCRIPTION

I. GENERAL EDUCATION COURSES

A. CORE COURSES

GEC003 - Understanding the Self   **3 units**

The course discusses the nature of identity, its factors and forces that affect the development and maintenance of personal identity. It is intended to facilitate the exploration of the issues and concerns regarding self and identity to arrive at a better understanding of one's self. It strives to meet this goal by stressing the integration of the personal with the academic — contextualizing matters discussed in the classroom and in the everyday experiences of students — making for better learning, generating a new appreciation for the learning process, and developing a more critical and reflective attitude while enabling them to manage and improve their selves to attain a better quality of life.

This also includes mandatory topics on Family Planning and Population Education. *Pre-req: None; Co-req: None*

GEC013 - Science, Technology, and Society   **3 units**

The course deals with interactions between science and technology and social cultural, political, and economic contexts, which shape and are shaped by them.

The interdisciplinary course engages students to confront the realities brought about by science and technology in society. Such realities pervade the personal, the public, and the global aspects of our living and are integral to human development. Scientific knowledge and technological development happen in the context of society with all its socio-political, cultural, economic, and philosophical underpinnings at play. This course seeks to instill reflective knowledge in the students that they are able to live the good life and display ethical decision making in the face of scientific and technological advancement.

This also includes discussion of climate change and environmental awareness as well as the implementation of the different environmental protection laws. *Pre-req: None; Co-req: None*

GEC023 - Mga Babasahin Hinggil sa Kasaysayan ng Pilipinas   **3 units**

Ang kursong ito ay tumatalakay sa mga piling primaryang sanggunian ukol sa iba't ibang yugto ng kasaysayan ng Pilipinas, pagsusuri at interpretasyon. Isasama din ang pagtalakay sa konstitusyon ng Pilipinas simula sa taong 1899 hanggang sa taong 1987. Ganun din ang pagtalakay sa repormang agraryo. Gayundin ang pagtalakay sa pagbubuwis bilang instrumento ng pamahalaan. Ito ay may kaugnayan sa tibay ng pagbubuwis bilang isa sa tatlong kapangyarihan ng pamahalaan na nakasaad sa Saligang Batas taong 1987. *Pre-req: None; Co-req: None*

GEC033 - Mathematics in the Modern World
3 units

The course discusses the nature of Mathematics, appreciation of its practical, intellectual, and aesthetic dimensions, and application of mathematical tools in daily life. *Pre-req: None; Co-req: None*

GEC043 - The Contemporary World
3 units

The course discusses globalization and its impact on individuals, communities and nations, challenges and responses. It introduces students to the contemporary world by examining the multifaceted phenomenon of globalization. Using the various disciplines of the social sciences, it examines the economic, social, political, technological, and other transformations that have created an increasing awareness of the interconnectedness of people and places around the globe. It provides an overview of the various debates in global governance, development, and sustainability. Beyond exposing the student to the world outside the Philippines, it seeks to inculcate a sense of global citizenship and global ethical responsibility.

This also includes mandatory topics on population education in the context of population and demography. *Pre-req: None; Co-req: None*

GEC053 - Art Appreciation
3 units

The course discusses the nature, function and appreciation of the arts in contemporary society. It intends to develop students' ability to appreciate, analyze, and critique works of art. Through interdisciplinary and multimodal approaches, this course equips students with a broad knowledge of the practical, historical, philosophical, and social relevance of the arts. This will hone their ability to articulate their understanding of the arts. It will also develop students' competency in researching and curating arts as well as conceptualizing, mounting, and evaluating art productions. The course aims to develop students' genuine appreciation for Philippine arts by providing them opportunities to explore the diversity and richness and their rootedness in Filipino culture. *Pre-req: None; Co-req: None*

GEC063 - Purposive Communication
3 units

The course discusses writing, speaking and presenting to different audiences and for various purposes. It develops students' communicative competence and enhances their cultural and intercultural awareness through multimodal tasks that provide them opportunities for communicating effectively and appropriately to a multicultural audience in a local or global context. It equips students with tools for critical evaluation of a variety of texts and focuses on the power of language and the impact of images to emphasize the importance of conveying messages responsibly. *Pre-req: None; Co-req: None*

GEC073 – Ethics
3 units

This course covers the context and tenets of ethical behavior in modern society including how individuals and communities interact with the environment and other common resources. It helps one to enhance their grasp of ethics and moral reasoning through the study of numerous theoretical viewpoints and moral experiences that make up so much of the core of daily life. By the end of the course, students should be able to articulate why and how people are seen as moral beings existing in a moral universe with a responsibility to protect themselves, one another, and the environment for everyone. *Pre-req: None; Co-req: None*

B. GENERAL EDUCATION ELECTIVE COURSES

GECELEC1 - Living in the IT Era   **3 units**
This general education elective course discusses how information technology shaped that way of life in the modern era. It discusses the science, culture and ethics information technology as well as how it affects contemporary life and interpersonal interactions and the way it may be used to promote one's social, professional, and personal goals. *Pre-req: None; Co-req: None*

GECELEC2 - The Entrepreneurial Mind   **3 units**
This general education elective course focuses on the nature and fundamentals of entrepreneurship as well as its societal responsibilities and repercussions. It is designed to assist students comprehend the business environment and encourage individuals adopt and innovative mindset. *Pre-req: None; Co-req: None*

GECELEC3 - Philippine Popular Culture   **3 units**
This general education elective course focuses on the emerging potential and expectation of mass audiences, markets and mass media, as well as their social, economic, and political settings, in the field of art, music, and literature. By the completion of the course, students should be able to demonstrate their appreciation of traditional and modern cultural expressions of as well as identify, analyze and develop trends in Philippine culture that have been inspired by various internal and external influences. *Pre-req: None; Co-req: None*

C. CHED MANDATORY COURSES

RZL023 - Buhay at Mga Akda ni Rizal   **3 units**
Ito'y isang pag-aaral sa buhay at gawa ni Gat. Jose Rizal at ang kaugnayan at kahalagahan sa nilalaman ng pangkasaysayang pagsulong ng lipunang Pilipino. Gamit ang istratehiyang 'Dambana" kung saan ang mag-aaral ay maglalaan ng panahon sa Bahay-Rizal sa Calamba, ang mag-aaral ay magiging kabahagi ng Rizal Shrine staff sa edukasyong pangkasaysayan ng mga panauhin sa Bahay-Rizal. *Pre-req: None; Co-req: None*

D. INSTITUTIONAL MANDATED COURSES

LQEC23-013 - Letran Quality Enrichment Course I (Letran Calamba Identity and 21st Century Learning Skills)   **3 units**
LQEC 1 is an enhancement course that is designed to introduce the identity of Colegio de San Juan de Letran Calamba including its history, Dominican spirituality, mission, vision, quality objectives, policies , processes and services. It also introduces the "Four Cs" of 21st Century Learning: Critical Thinking, Creativity, Collaboration and Communication that aims to enhance students' knowledge and awareness of the essential communication concepts and establish deep comprehension of the processes in a creative manner.
Furthermore, it helps the learners to formulate logical and well-thought-out reasoned judgments and promote active engagement with others to achieve a common goal. Pre-req: None; Co-req: None

LQEC23-023 - Letran Quality Enrichment Course II (21st Century Literacy Skills & Life Skills and Sustainability) 3 units

LQEC 2 is an enhancement course that is designed to provide basic understanding about leadership, flexibility, initiative, social skills and productivity. It also introduces digital literacy which focuses on fundamental understanding of media, technology, and information as tools for communication and the advancement of people and communities.

Moreover, the course also introduces the concept of Environment, Social, and Governance (ESG) which determines an organization's commitment to sustainability. All of these are necessary to help the learners become competitively employable in the future of work. *Pre-req: LQEC23-013; Co-req: None*

RELED053 - The Catholic Christian Faith 3 units

This course deals with the basic Catholic Christian Doctrine. It highlights the 12 articles of faith in the Apostles Creed, as well as the Sacred Scripture. Thus it guides the students to a life of truth, fidelity and worship to God. *Pre-req: None; Co-req: None*

RELED063 - Contemporary Issues in Christian Marriage 3 units

Contemporary Issues in Christian Marriage is a three unit academic subject. The emphasis of the course is on Marriage and Family presented as a vocation and a sacrament. The study prepares the students for the reception of the sacrament and achievement of a better outlook on the realities and complexities of the married state and family life. *Pre-req: RELED053; Co-req: None*

RELED073 - Contemporary Issues About Church and Human Society with Immersion 3 units

Contemporary Issues About Church and Human Society with Immersion is a three unit academic subject. This course studies the seven themes of the social teachings of the Catholic Church. It also tackles contemporary social issues which hamper the development of our country. An integral part of the course is Makipamuhay, a learning strategy that allows students to experience direct contact with the oppressed in society specifically the rural poor and leads them to develop personal as well as communal witnessing to authentic Christian faith. *Pre-req: RELED053; Co-req: None*

RELED083 - Christian Ethics 3 units

This course presents the foundations and fundamentals of Christian Ethics and their application to issues and concerns related to the Ten Commandments. *Pre-req: RELED053; Co-req: None*

E. PHYSICAL EDUCATION COURSES

PATHFIT1002 - Movement Competency Training   2 units
This course provides training in different movement and core engagement in conjunction with principles of healthy and physical active life. Students will be able to adopt and transfer the movement competency in different contexts. *Pre-req: None; Co-req: None*

PATHFIT2022 - Exercise-Based Fitness   2 units
This course provides experiences in core stability, strength, and mobility training. It includes goal setting exercise progression and regression and periodic assessment for the development of various fitness component.
Pre-req: PATHFIT1002; Co-req: None

PATHFIT3032 - Individual/Dual Sports   2 units
This course puts emphasis on gaining basic knowledge of individual/dual sports, fitness and lifetime activities. It also includes different kinds of individual/dual sports. Students will learn the skills and game strategies for each sport as well as their historical background and terminology. Activities promote participation in physical activity to achieve good health and wellness. *Pre-req: PATHFIT1002, PATHFIT2022; Co-req: None*

PATHFIT4042 - Contemporary Dance   2 units
This course provides the students the foundations of contemporary dance technique and execution. It focuses on various movement concepts at each level, particularly designed solos, and the integration of organized improvisation to provide students, the opportunity to explore and come up with their own movement language. It encourages creativity by fusing elements of jazz, modern dance, lyrical dance, classical ballet, and other disciplines. *Pre-req: PATHFIT1002, PATHFIT2022; Co-req: None*

F. NATIONAL SERVICE TRAINING PROGRAM

NSTP1-18 - National Service Training Program 1   3 units
The National Service Training Program 1 is a curricular offering consisting of lectures and trainings on citizenship, values education, environment and drug education, disaster management, transformational leadership, dimensions of development and literacy and numeracy skills aimed to empower the youth as potential community leaders toward national development. *Pre-req: None; Co-req: None*

NSTP2-18 - National Service Training Program 2   3 units
The National Service Training Program 2 is a sequel to NSTP1. This course is designed to equip the students with the fundamentals of project identifications, planning implementation and evaluation which include but is not limited to lecture and training on social mobilization, community development, and community service. The students are required to undergo the process of community immersion in pursuit of applying the concepts learned in contributing to the general welfare of in the Colegio's partner communities. *Pre-req: NSTP1-18; Co-req: None*

II. PROFESSIONAL COURSES

COMMON COMPUTING COURSES

COMP302-23 - Introduction to Computing   **2 units**
This course will discuss the computing industry and computing profession, computing research and its applications in different fields, as well as an appreciation of computing in various fields like medicine, biology, sociology, environment, and gaming. Furthermore, the history of the computer, computer organization and architecture, computer security, and Internet and Internet protocols will also be discussed. *Pre-req: None; Co-req:COMP301L-23*

COMP301L-23 - Introduction to Computing Lab   **1 unit**
This course helps students develop skills in computer troubleshooting, spreadsheets data manipulation, and current IT trends. At the end of this course, students will be able to evaluate, install, configure, maintain, and troubleshoot computer hardware components and operating systems, as well as use basic to advanced features of spreadsheet software to manipulate and represent data. They will also be able to use current IT trends to solve problems. *Pre-req: None; Co-req:COMP302-23*

COMP312 - Computer Programming I   **2 units**
The course covers the use of general-purpose programming to solve problems. The emphasis is to train students to design, implement, test, and debug programs intended to solve computing problems using fundamental programming constructs. It discusses flowcharting and pseudo-coding as requirements in problem-solving using C language. These tools are intended to develop the student's analytical and logical thinking. This course also focuses on simple data types, control structures, functions, and an introduction to array and string data structures as well as debugging techniques. *Pre-req: None; Co-req: COMP311L*

COMP311L - Computer Programming I Lab   **1 unit**
This course provides students an avenue to apply the theories that have been discussed in COMP312 (Computer Programming I). Intense laboratory activities are provided to the students to hone them to have analytical and logical thinking. At the end of this course, the students can create and evaluate solutions to programming problems. *Pre-req: None; Co-req: COMP312*

COMP332 - Computer Programming II   **2 units**
This course helps students develop skills in problem-solving using a general-purpose programming language. The emphasis is to train students to design, implement, test, and debug programs intended to solve computing problems using basic data structures and standard libraries. *Pre-req: COMP312, COMP311L, Co-req COMP331L*

COMP331L - Computer Programming II Lab   **1 unit**
The course is the actual laboratory application of the different theories discussed in COMP332 (Computer Programming II). At the end of the course, the students can create Object- Oriented Based solutions to programming problems. *Pre-req: COMP312, COMP311L, Co-req COMP332*

COMP112 - Information Management
2 units

The course covers topics in information management, database design, data modeling, and SQL implementation using a relational database system. *Pre-req: COMP312, COMP311L, Co req COMP111L*

COMP111L - Information Management Lab
1 unit

The course is the actual laboratory application of the different theories discussed in COMP112 (Information Management). At the end of the course, the students can design a database using a Database Management System suitable to the data requirements of a system. *Pre-req: COMP312, COMP311L, Co req COMP112*

COMP462 - Applications Development & Emerging Technologies
2 units

This course deals with the development of applications using the web, mobile, and emerging technologies, emphasizing requirements management, interface design, usability, testing, and deployment with considerations of ethical and legal factors. *Pre-req: CSIT142A, CSIT141A-L-23, co-req COMP461L*

COMP461L - Applications Development & Emerging Technologies Lab
1 unit

This course enables the students to develop applications using emerging technologies which were discussed in COMP462. *Pre-req: CSIT142A, CSIT141A-L-23, co-req COMP462*

COMP042 - Data Structures and Algorithms
2 units

This course covers fundamental data structure, algorithms, and abstract data types. The topics included are stacks, queues, trees, graphs, maps, and sets. Furthermore, algorithms used for list manipulation graph searches, sorting, searching, and tree traversals are also covered. *Pre-req: None, Co-req: COMP041L*

COMP041L - Data Structures and Algorithms Lab
1 unit

This course teaches the student how to develop a software solution to a problem using appropriate data structures and algorithms. The students should be able to demonstrate as well that the algorithm used in solving the problem is the most efficient by defending his/her work. *Pre-req: None; Co-req: COMP042*

A. COMPUTER SCIENCE SPECIALIZING IN DATA SCIENCE PROFESSIONAL COURSES

CSIT323A-23 – Introduction to Discrete Structures
3 units

This course covers the mathematics that underlies most of computer science, which are the fundamental mathematical concepts and reasoning along with problem-solving techniques. Topics covered include inferencing, proof methods, propositional logic, predicate logic, set, set operations, proofs, growth of function, number theory, binary relations, trees, graphs, and functions. *Pre-req: None; Co-req: MATH293*

CS323B-23 - Advanced Discrete Structures
3 units

This course provides the background in combinatorics and probability theory required in design and analysis of algorithms, in system analysis, and in other areas of computer science. Topics include permutations, combinations of a set, probabilities using counting and Bayes Theorem. At the end of the course, the students are able to solve equations involving recurrence. *Pre-req: CSIT323A-23; Co-req: None*

CSIT362 - Object-Oriented Programming   2 units
This course provides the students with the fundamental understanding of object-oriented programming using Java. This course intends to increase the student's knowledge and skills needed to develop reusable quality programs, instruct students on the use of object oriented tools such as UML for modeling problem solutions. *Pre req: COMP332, COMP331L; Co-req: CSIT361L*

CSIT361-L - Object-Oriented Programming Lab   1 unit
This course will train the students to write simple to complex java applications by using classes, objects, methods and instance variables. *Pre req: COMP332, COMP331L; Co-req: CSIT362*

CSIT153-23 - Computer Algorithms and Complexity   3 units
This course covers the general techniques to support the design and analysis of algorithms. Topics include algorithm analysis, algorithmic strategies, sorting and searching, graph algorithms, and geometric algorithms. This also teaches the students on the formal methods for providing the correctness and analyzing the complexity of such algorithms using program verification tools like BLAST model checker. *Pre-req: COMP042, COMP041L*

CSIT273 - Automata Theory and Formal Languages   3 units
This course introduces the formal models of computing and their relation to formal languages. The course will tackle fundamental concepts in automata theory and formal languages including grammar, finite automaton, regular expression, formal language, pushdown automaton, and Turing machine. *Pre-req: CSDS062, CSDS061L*

CSIT163-23 - Computer Architecture and Organization   3 units
This course discusses basic architecture of modern computers, interaction between computer hardware and software at various levels, and performance evaluation and metrics. Instruction set design, computer arithmetic is also discussed. Data path and control unit design for RISC Processors are covered in detail. The laboratory work includes the design and implementation of a 16-bit RISC CPU using an FPGA development system and HDL. *Pre-req:CSIT153-23; Co-req: CSIT252-23, CSIT251L-23*

CSIT343 -Fundamentals of Information Assurance and Security   3 units
This course discusses the information systems security models, software security, policy development, personnel responsibilities, contingency planning, physical security, administrative controls, and information security assessment methods. Furthermore, this course also includes technologies for assurance and vulnerability analysis and intrusion detection. *Pre-req: CSIT252-23, CSIT251L-23; Co-req: None*

CSIT332 - Introduction to Human Computer Interaction   2 units
The course will discuss user-centered software design; (1) principles of and methods for understanding user needs, designing and prototyping interface solutions, and evaluating their usability, (2) their applications in designing web-based, mobile, and embodied interfaces. *Pre-req: None; Co-req: CSIT331L*

CSIT331L - Introduction to Human Computer Interaction Lab
1 unit

In this course, students will learn how to design technologies that bring a user interactive environment. Students learn several techniques for rapidly prototyping and evaluating multiple interface alternatives and why rapid prototyping and comparative evaluation are essential to excellent interaction design. *Pre-req: None; Co-req: CSIT332*

CSIT252-23 – Fundamentals of Networking
2 units

The course focuses on the data communication between computer installation and system transmission, media and methods, switching types, network topology, line control procedures, routing and flow control, line capacity assignment. It also covers file transfer protocols. Basic network interface components, network protocols, internetworking devices, selecting, installing, managing and using networks, network security and computer network design. *Pre-req: None; Co-req: CSIT251L-23, CSIT163-23*

CSIT251L-23 - Fundamentals of Networking Lab
1 unit

The course will teach the students how to create different types of cabling used in networking. This will also cover the creation of a single multiple LAN's as well as configuring a client and server operating system and connecting the client machine to the server. At the end of the course the students are ready for NC II Computer and Hardware Servicing. *Pre-req: None; Co-req: CSIT252-23, CSIT163-23*

CSIT192 - Operating System
2 units

This course provides an introduction to the concepts and theories of operating systems. Topics include process and memory management, process scheduling, process synchronization and deadlocks. *Pre-req: CSIT142B, CSIT141B-L-23; Co-req: CSIT191L*

CSIT191L - Operating System Lab
1 unit

The course covers the basics of Linux operating systems and also includes simulation of management performed by the operating system. *Pre-req: CSIT142B, CSIT141B-L-23; Co-req: CSIT192*

CSIT183 - Social Issues and Professional Practice
3 units

In this course, the students will be taught about the relevant local and global impact of information technology on individuals, organizations, and society. Furthermore, the students should be able to understand the professional, ethical, legal, security, and social issues and responsibilities in the development and utilization of information technology. *Pre req: CSDS072B, CSDS071BL; Co-req*

CSIT142A - Software Engineering I
2 units

The course covers the software development life cycle, focusing on data collection, analysis of software requirements, system design and modeling, and up to prototyping. Students will learn the distinctions between structured and object-oriented approaches to software analysis, and modeling, as well as waterfall-based and agile-based in software development. At the end of this course, students are required to demonstrate and defend the suitability of their computing solutions and approaches to various audiences. *Pre-req: COMP112, COMP111L; Co-req: CSIT141A-L-23*

CSIT141A-L-23 – Software Engineering I Lab (Mobile Programming 1)   **1 unit**
This course provides students an avenue to apply the principles of CSIT142A (Software Engineering I) through Android programming. Application of Android Services & APIs, activities, views and controls, and DBMS utilizing SQLite for simple CRUD (Create, Read, Update and Delete) will be provided to the students. *Pre req: CSIT112, COMP111L; Co-req: CSIT142A*

CSIT142B - Software Engineering II   **2 units**
This course is the continuation of CSIT142A - Software Engineering I. It focuses on the following phases: system testing, software revision, and system maintenance. At the end of the course, students are expected to present the final prototype, the findings of the software testing, and the system maintenance plan. *Pre-req: CSIT142A, CSIT141A-L-23; Co-req: CSIT141B-L-23, CSIT252-23, CSIT251L-23*

CSIT141B-L-23- Software Engineering II Lab (Mobile Programming II)   **1 unit**
This course will teach students how to use the more advanced features in Android programming which includes database operations, location-based services, Google Maps, Bluetooth, WIFI, cloud, camera, sensors, and Google Play Store deployment. At the end of the course, the students should be able to integrate these features into the mobile application being developed. *Pre-req: CSIT142A, CSIT141A-L-23; Co-req: CSIT142B*

CS-THS1 - CS Thesis I   **3 units**
This course emphasizes on the development of a step-by step thesis proposal and documentation of chapter 1, 2, 3, 4 of a thesis document. *Pre req: CSIT142B, CSIT141B-L-23; Co-req: None*

CS-THS2 - CS Thesis II   **3 units**
This course is a continuation of CS-TH1 (CS Thesis I). The students are expected to come up with an original software that is feasible. Chapter 5 and 6 are to be finished by the students to complete their Thesis documentation. *Pre req: CS-THS1; Co-req: None*

CS-PRC5 - Practicum (500hrs)   **5 units**
This course focuses on the proper training of a student in an industry and commercial-based environment. This course covers actual systems work related to, directly or indirectly, the field of information technology. The course allows the students exposure to an integration of all aspects of the information technology discipline through a synergistic partnership with the computing industry. *Pre req: CS-THS2; Co-req: None*

B. SPECIALIZATION COURSES

CSDS003 - Matrix Algebra   **3 units**
In this course the students are expected to learn matrix algebra which is used in different machine learning algorithms like regression, neural networks, and classification, among others. This course will help the students understand the algorithms better and how matrix algebra forms the basis of machine learning. Topics included are Vectors and Matrices, Image Space and Kernel, Non-singular matrices and determinants, eigenvalues and eigenvectors, orthogonal projections and Matrix Decompositions. Pre req: MATH293, CS323B-23; Co-req: None

CSDS013 - Calculus
3 units

In this course the students are taught multivariate calculus which are important in building machine learning models. In addition, through this course the students are being equipped with the mathematical foundation in building an accurate predictive model. Topics included are elementary vector analysis, definitions involving functions of several variables, computations using the usual rules of differentiation, computations and proofs using the definitions, maxima and minima of functions of several variables, double integrals, triple integrals, and line integrals. *Pre req: CSDS003; Co-req: None*

CSDS032 - Data Analysis and Visualization
2 units

This course focuses on the fundamental concepts and methods of data analysis and visualization. Topics include introduction to data science, structured and unstructured data, types of analytics, statistical inference, sample tests of means and proportions, simple linear regression, multiple regression, logistic regression, analysis of variance, and regression diagnostics. The guidelines for presenting data visually are also covered. *Pre-req: COMP302-23, COMP301L-23; Co-req:CSDS031L;*

CSDS031L - Data Analysis and Visualization Lab
1 unit

In this course, students will learn how to process, analyze, and visualize data using statistical tools. It emphasizes on how to utilize data analysis tools (like R software, Minitab, MATLAB, or Python), how to analyze output using the principles covered in the lecture; and how to visualize results using visualization software (like Tableau, Excel, or Power BI). Students are expected to apply the lessons in solving project case analysis. *Pre-req: COMP302-23, COMP301L-23; Co-req:CSDS032;*

CSDS283 - Artificial Intelligence
3 units

In this course students will learn the fundamentals of Artificial Intelligence (AI). Learn about the uses of AI and gain an understanding of terms and concepts including machine learning, deep learning, and neural networks. Students will be exposed to various issues and concerns surrounding AI such as ethics, bias, and jobs. *Pre-req: COMP042, COMP041L;*

CSIT392 - Programming Languages
2 units

This course provides students the fundamental features and concepts of different programming languages. Topics included are principles of language design, specification of language syntax, procedural and OO languages, basics of functional programming, and logic programming, programming language semantics, values, bindings, types, programming language constructs, expressions, statements, procedures and environments, and parameter passing. *Pre-req:CSDS032, CSDS031L; Co-req:CSIT391L-23*

CSIT391L-23 - Programming Languages Lab (Python Programming)
1 unit

This course introduces computer programming using the Python programming language. Topics include fundamentals in python programming, program flow, functions and modules, List, exception handling, file handling, classes, generators and iterators, data structures, and collections. Upon completion, students should be able to design, code, test, and debug Python language programs. *Pre-req: CSDS032, CSDS031L; Co-req:CSIT392;*

CSDS042 - Advanced Python Programming   **2 units**

This course is design to expand the material covered in CSIT392 (Programming Languages) by exploring more advanced concepts in Python. The course focuses on object-oriented programming approach utilizing both the standard library and third-party modules, integrating APIs, and implementing database access operations. *Pre-req:CSIT392, CSIT391L-23; Co-req:CSDS041L;*

CSDS041L - Advance Python Programming Lab   **1 unit**

This course provides students an avenue to apply the theories that have been discussed in CSDS041L (Advanced Python Programming). Intense laboratory activities are provided to the students to continuously improve their analytical and logical thinking. At the end of this course, the students can create and evaluate advanced solutions to programming problems. *Pre-req:CSIT392, CSIT391L-23; Co-req:CSDS042;*

CSDS052 - Introduction to Machine Learning   **2 units**

This course provides students the fundamental concepts, techniques, and algorithms in machine learning. Topics include introduction to machine learning, data preprocessing, regression and classification algorithms, and model evaluation. The course will teach students how to use machine learning techniques and provide a more formal knowledge of how, why, and when they are effective. *Pre-req: CSIT153-23, CSDS283; Co-req:CSDS051L*

CSDS051L - Introduction to Machine Learning Lab   **1 unit**

This course provides students an avenue to apply the theories that have been discussed in CSDS052 - Introduction to Machine Learning. It emphasizes how to utilize machine learning software (like Python) in creating and testing regression and classification models. *Pre-req:CSIT153-23, CSDS283; Co-req:CSDS052;*

CSDS062 - Advanced Machine Learning   **2 units**

This is an advanced machine learning course that emphasizes developments in deep learning using neural networks. The emphasis of the course will be on computer vision and natural language processing (NLP) applications. The required machine learning models' mathematical concepts, and the corresponding optimization techniques will be discussed in this course. *Pre-req:CSDS052, CSDS051L; Co-req:CSDS061L*

CSDS061L - Advance Machine Learning Lab   **1 unit**

This course provides students an avenue to apply the theories that have been discussed in CSDS062 – Advanced Machine Learning. It emphasizes how to utilize machine learning software (like Python) in creating and testing deep learning models using neural networks. *Pre-req:CSDS052, CSDS051L; Co-req:CSDS062*

CSDS072A - Data Science I   **2 units**

This course explores theories and methods for creating, formulating, and using practical applied data science. The subjects that will be covered include experimental design, statistical analysis and descriptive analytics, machine learning, data visualization, and scientific writing and presentation. The goal for this course will be to gather, examine, and comprehend data in support of a research question. *Pre-req:CSDS042, CSDS041L; Co-req:CSDS071AL;*

CSDS071AL - Data Science I Lab
1 unit

The goal of this course is to uncover unknown facts by employing applied data science and data analysis tools. At the end of this course, students will develop their own model for managing structured or unstructured data. *Pre-req:CSDS042, CSDS041L; Co-req:CSDS072A;*

CSDS072B - Data Science II
2 units

This course focuses on discovering unknown facts by employing advanced data analysis techniques to produce prediction models. Students are free to either continue their Data Science 1 project or suggest new topics. The goal of this course is to teach students how to manage structured or unstructured data using their own machine learning algorithms for prediction. *Pre-req:CSDS072A, CSDS071AL; Co-req:CSDS071BL;*

CSDS071BL - Data Science II Lab
1 unit

The goal of this course is to apply advanced data analysis techniques and tools for building predictive models. At the end of this course, students will develop and evaluate their own model. *Pre-req:CSDS072A, CSDS071AL; Co-req:CSDS072B*

C. ADDITIONAL MATH COURSE

MATH293 – Probability and Statistics
3 units

This course will cover the foundations of probability and statistics needed for data science. It covers descriptive statistics which deals with analyses of frequency distribution and associated measures of central tendency and dispersion. It discusses elementary probability theories in preparation for the introduction of inferential statistics which covers hypothesis testing using both the parametric and non-parametric methods. Thus, it covers topics on Probability Theory, Random Variables, Multivariate Random Variables, Expectation, Random Process, Convergence of Random Process and Introduction to Markov Chain. *Pre-req: None; Co-req: CSIT323A-23, GEC033*

D. PROFESSIONAL ELECTIVES

Green Computing
3 units

This course will teach students on how to reduce the energy use, waste, and other environmental impacts of IT systems while reducing life cycle costs. Furthermore, this course will cover green computing researches, energy-efficient hardware and software design, power-aware resource management and storage solutions, green data centers, recycling computer equipment, use of virtualization to reduce the number of servers, and other relevant technologies. Students will also learn how to make green computing an integral part of the organization's culture and planning.

Technopreneurship
3 units

The course is intended to teach students entrepreneurial mindset and culture utilizing a technology or engineering background. This will fit into goals of starting a company or being involved in a technopreneurial or R&D effort in companies of all sizes and industries. This will cover topics such as introduction to technopreneurship, idea creation, feasibility and differentiation, market validation, and business planning and execution.

Internet of Things   3 units
This course is intended to teach students a deep understanding of IoT technologies and system design concepts which exploit networking, sensing, big data, security enforcement, data science and artificial intelligence technology to develop a system.

Web Technologies   3 units
This course will discuss how the Web works when we visit a website, what the MVC pattern is; it will help students get gradually familiar with HTML5, CSS, Javascript, JQuery and Bootstrap. At the end of the course, the students are able to design and develop their own web pages.

Blockchain Technology   3 units
The course will discuss the foundational overview of how Blockchain evolves in the technology that help students to practically understand and effectively demonstrate the meaningful capacity for innovation and efficiency in business, be knowledgeable in distributed ledgers, Blockchain technology and cryptocurrencies.

Cybersecurity   3 units
This course introduces the concepts and understanding of cybersecurity to students and tackles exposure in business intelligence, data mining, information security, system security management and network security and how to protect and defend against threats.

Cloud Computing   3 units
Students will learn the core concepts of cloud computing. Specifically, topics include the overview of cloud computing, cloud systems, parallel processing in the cloud, distributed storage systems, virtualization, security in the cloud, and multicore operating systems.

Robotics Process Automation   3 units
This course will discuss the concepts of Robotic Process Automation and introduce key RPA Design and Development Strategies and Methodologies, specifically in the context of UiPath technology so that the students shall develop the competence to design and develop automation solutions for business processes.

Virtual Reality and Augmented Reality   3 units
This course will provide students with the basic principles of virtual reality and augmented reality. The topics included are history of VR/AR, fundamental theory, interaction techniques, specific application areas, strengths and limitations of VR/AR technology and the human factors and cognitive issues that should be considered when using this medium. Furthermore, topics like computer vision, computer graphics and human computer interaction will be discussed in the context of virtual and augmented reality.

PROGRAM DESCRIPTION

Bachelor of Science in Information Technology includes the study of computing concepts, programming, networking, cloud computing, web technologies, mobile programming, and emerging technologies in computing. The students under this program would be able to deliver computing services and solutions on various platforms and infrastructure that would address the organization's needs for sustainability and innovation at scale.

Career Options
- Cloud Engineer
- Network Engineer
- Full-Stack Developer
- Mobile Applications Developer
- Web Developer
- Python Programmer
- Computer Programmer
- Information Technology Professor

Certification Programs embedded in the curriculum
- Microsoft Excel Associate
- Information Technology Specialist in Cloud Computing
- Information Technology Specialist in Networking
- Information Technology Specialist in Databases
- IT Specialist Certification in HTML and CSS
- IT Specialist Certification in HTML 5 Application Development
- IT Specialist Certification in JAVA

Program Educational Objectives

Three to five years after graduation, the BS Information Technology (BSIT) alumni shall:
1. Advance their practice in the field of Information Technology;
2. Assume a higher level of responsibility in the same or related field;
3. Manifest proper ethical principles and values founded on a Filipino, Dominican and Christian orientation; and
4. Continually pursue lifelong learning endeavors.

Program Outcomes and Performance Indicators

Upon completion of BS Information Technology (BSIT), the graduate, who is trained in a culture of conscience and excellence with Filipino, Dominican, and Christian in orientation, must be able to:

Program Outcomes	Performance Indicators
1. Articulate and discuss the latest developments in the specific field of practice	• Engage in continual learning in one's specialization
2. Act in recognition of professional, social, and ethical responsibility	• Maintain stature and behavior that uphold the Professional Code of Ethics • Immerse in an actual working environment in industry
3. Preserve and promote Filipino historical and cultural heritage (based on RA No. 7722)	• Demonstrate responsible Filipino citizenship in local, national or international communities

4. Participate in various types of employment, development activities, and public discourses, particularly in response to the needs of the communities one serves	• Plan and take action for the welfare of the community • Continually engage oneself in development projects and activities that address the community needs
5. Manifest strong commitment and conviction to the Christian and Dominican teachings and philosophy in thoughts, words, and deeds	• Observe the Dominican values of study, prayer, community, and service • Uphold ecological consciousness and engage in environmental stewardship • Participate actively in the community's spiritual and social advocacy or extension program
6. Analyze complex problems and identify and define the computing requirements needed to design an appropriate solution	• Formulate and decompose a problem into appropriate components. • Identify and formulate software and hardware requirements specifications. • Estimate resources required for the proposed solution
7. Apply computing and other knowledge domains to address real-world problems	• Use computing theories and studies to create a solution that can address real world computing problems. • Use other related knowledge domains to create a solution that can address real world computing problems

8. Design and develop computing solutions using a system level perspective	• Explain trends and directions of computer systems. • Identify constraints on design problems and establish criteria for acceptability of solutions; implement and evaluate solutions. • Plan and write programs demonstrating programming and debugging skills
9. Utilize modern computing tools	• Use integrated development environment in developing software. • Demonstrate competence with the use of multiple modern platforms for computing and development.
10. Apply knowledge of computing, science and mathematics appropriate to the discipline.	• Complete and successfully defend Capstone Project • Chooses a mathematical model of a system or process appropriate for required accuracy • Examines methodologies to solve computing problems in order to choose the more appropriate approach
11. Understand best practices and standards and their applications	• Exemplify industry best practices upon creating, designing and innovating new computing applications • Recognize IT industry standards • Acquire knowledge and skills gained from completing OJT

12. Identify and analyze user needs and take them into account in the selection creation evaluation and administration computer based systems	• Gather system requirements necessary for the development of a computing solution. • Analyze the gathered requirements for the development of a computing solution
13. Design, implement and evaluate computer-based systems processes, components or programs to meet desired needs and requirements under values constraints	• Correctly design a solution based on the needs and requirements of the end-user • Implement the developed solution according to the specifications of the end-user • Evaluate an implemented process and recommend a better solution design process approach to meet the users desired needs
14. Integrate IT-based solutions into the user environment effectively	• Defend a completed system or program that answers a certain problem or helps improved a current process • Participate in project roll-outs and analyze user feedbacks • Create system frequent updates to continuously improve IT-based services
15. Apply knowledge through the use of current techniques, skills, tools and practices necessary for the IT profession	• Use an integrated development environment • Perform task-specific research to learn new techniques, skills, and tools.

	- Demonstrate competence with multiple current platforms for computing and development - Demonstrate competence with a selected set of tools
16. Function effectively as an individual and as a member or leader in diverse teams, and in multidisciplinary settings	- Work in a group to develop a machine project - Perform well as a team leader or member in any kind of group project or activity - Perform independently and cooperatively to accomplish worthwhile goals - Work together with a team to create a solution to a computational problem
17. Assist in the creation of an effective IT project plan	- Work in a group to develop a machine project - Produced a document which gathers data that analyze and specify the requirements of a system - Create general and detailed models that assist programmers in implementing a system
18. Communicate effectively with the computing community and read society at large about complex computing activities through writing presentations and clear instructions	- Present a proposed solution in class or in a public forum - Express oneself clearly in verbal or written forms the updates in one's career or vocation

	• Defend satisfactorily his/her thesis/capstone project from a panel of experts • Writing conforms to appropriate technical style format appropriate to the audience
19. Analyze the local end global impact of computing information technology on individuals organizations and society	• Evaluates conflicting/competing social values in order to make informed decisions about an IT-based solution • Evaluates and analyses the economics on an IT-based solution • Identifies the individual organization and social issues involved in an IT-based solution and incorporates the sensitivity into the design process
20. Understand professional ethical legal security and social issues and responsibilities in the utilization of information technology	• Immerse in an actual working environment in an industry • Engage on positions as IT professionals and/or embark on a research • Work effectively in the IT field to make a positive contribution to the society
21. Recognize the need for and engage in planning self-learning and improving performance as foundation for continuing professional development	• Create a report on a conducted independent learning activity • Expresses an awareness that education is continues after graduation • Able to find information relevant to problem solution without guidance

BACHELOR OF SCIENCE IN INFORMATION TECHNOLOGY
GENERAL SUMMARY OF COURSES

I. General Education Courses

A. Core Courses — **24**

GEC003	Understanding the Self	3
GEC013	Science, Technology, and Society	3
GEC023	Mga Babasahin Hinggil sa Kasaysayan ng Pilipinas	3
GEC033	Mathematics in the Modern World	3
GEC043	The Contemporary World	3
GEC053	Art Appreciation	3
GEC063	Purposive Communication	3
GEC073	Ethics	3

B. CHED Mandated Courses — **23**

a. Rizal Course

RZL023	Buhay at Mga Akda ni Rizal	3

b. Physical Education Courses

PATHFIT1002	Movement Competency Training	2
PATHFIT2022	Exercise Based Fitness Activities	2
PATHFIT3032	Individual/Dual Sports	2
PATHFIT4042	Contemporary Dance	2

c. National Service Training Program

NSTP1-18	National Service Training Program 1	3
NSTP2-18	National Service Training Program 2	3

d. GENED Elective Courses

GECELEC1	Living in the IT Era	3
GECELEC2	The Entrepreneurial Mind	3

C. Institutional Mandated Courses — **18**

a. Religious Education Courses

RELED053	The Catholic Christian Faith	3
RELED063	Contemporary Issues in Christian Marriage	3
RELED073	Contemporary Issues About Church and Human Society with Immersion	3
RELED083	Christian Ethics	3

b. Letran Quality Enrichment Courses

LQEC23-013	Letran Quality Enhancement Course I (Letran Calamba Identity and 21st Century Learning Skills)	3
LQEC23-023	Letran Quality Enhancement Course II (21st Century Literacy Skills & Life Skills and Sustainability)	3

II. Professional Courses

A. Common Computing Courses — **18**

COMP302-23	Introduction to Computing	2
COMP301L-23	Introduction to Computing Lab	1
COMP312	Computer Programming I	2
COMP311L	Computer Programming I Lab	1
COMP332	Computer Programming II	2
COMP331L	Computer Programming II Lab	1
COMP112	Information Management	2
COMP111L	Information Management Lab	1

Code	Course	Units
COMP462	Applications Development and Emerging Technologies	2
COMP461L	Applications Development and Emerging Technologies Lab	1
COMP042	Data Structures and Algorithms	2
COMP041L	Data Structures and Algorithms Lab	1

B. BSIT Professional Courses — 69

Code	Course	Units
CSIT132	Quantitative Methods	2
CSIT131L	Quantitative Methods Lab	1
CSIT142A	Software Engineering I	2
CSIT141A-L-23	Software Engineering I Lab (Mobile Programming 1)	1
CSIT142B	Software Engineering II	2
CSIT141B-L-23	Software Engineering II Lab (Mobile Programming 2)	1
CSIT183	Social Issues and Professional Practice	3
CSIT252-23	Fundamentals of Networking	2
CSIT251L-23	Fundamentals of Networking Lab	1
CSIT312	Database Systems	2
CSIT311L	Database Systems Lab	1
CSIT323-23	Introduction to Discrete Structures	3
CSIT332	Intro to Human Computer Interaction	2
CSIT331L	Intro to Human Computer Interaction Lab	1
CSIT362	Object-Oriented Programming	2
CSIT361L	Object-Oriented Programming Lab	1
CSIT343	Fundamentals of Information Assurance and Security	3
CSIT372	Integrative Programming and Technologies I	2
CSIT371L	Integrative Programming and Technologies I Lab	1
IT112A-23	Web Technologies I	2
IT111A-L-23	Web Technologies I Lab	1
IT112B-23	Web Technologies II	2
IT111B-L-23	Web Technologies II Lab	1
IT203A-23	Systems Integration and Architecture	3
IT252B	Advance Networking	2
IT251LB-L	Advance Networking Lab	1
IT452	Introduction to Cloud Computing	2
IT451L	Introduction to Cloud Computing Lab	1
IT462	Advance Cloud Computing	2
IT461L	Advance Cloud Computing Lab	1
IT473	Advance Information Assurance and Security	3
IT482	Systems Administration and Maintenance	2
IT481L	Systems Administration and Maintenance Lab	1
IT-CP1	Capstone Project I	3
IT-CP2	Capstone Project II	3
IT-PRC6	Practicum (600hrs)	6

C. Professional Electives — 12

Code	Course	Units
ITELEC-1	IT Elective 1	3
ITELEC-2	IT Elective 2	3
ITELEC-3	IT Elective 3	3
ITElec-4	IT Elective 4	3

TOTAL UNITS 164

BACHELOR OF SCIENCE IN INFORMATION TECHNOLOGY
Curriculum Year 2023-2024

Course Code	Course Title	Lec Units/Hrs	Lab Units	Lab Hrs	Total	PRE-REQUISITES/ CO-REQUISITES
FIRST YEAR, First Semester						
COMP301L-23	Introduction to Computing Lab		1	3	1	co-req COMP301L-23
COMP302-23	Introduction to Computing	2			2	co-req COMP302-23
COMP311L	Computer Programming I Lab		1	3	1	co req COMP312
COMP312	Computer Programming I	2			2	co req COMP311L
CSIT323-23	Introduction to Discrete Structures	3			3	
CSIT331L	Intro to Human Computer Interaction Lab		1	3	1	co-req CSIT 332
CSIT332	Intro to Human Computer Interaction	2			2	co-req CSIT 331L
GEC003	Understanding the Self	3			3	
LQEC23-013	Letran Quality Enrichment Course I (Letran Calamba Identity and 21st Century Learning Skills)	3			3	
	Total	**15**	**3**	**9**	**18**	
FIRST YEAR, Second Semester						
COMP041L	Data Structures and Algorithms Lab		1	3	1	co-req COMP042
COMP042	Data Structures and Algorithms	2			2	co-req COMP041L
COMP331L	Computer Programming II Lab		1	3	1	COMP312, COMP311L, co-req COMP332
COMP332	Computer Programming II	2			2	COMP312, COMP311L, co-req COMP331L
GEC053	Art Appreciation	3			3	
GEC063	Purposive Communication	3			3	
GEC073	Ethics	3			3	
IT111A-L-23	Web Technologies I Lab		1	3	1	COMP312, COMP311L, co-req IT112A-23
IT112A-23	Web Technologies I	2			2	COMP312, COMP311L, co-req IT111A-L-23
NSTP1-18	National Service Training Program 1	3			3	
PATHFIT1002	Movement Competency Training	2			2	
RELED053	The Catholic Christian Faith	3			3	
	Total	**23**	**3**	**9**	**26**	
SECOND YEAR, First Semester						
COMP111L	Information Management Lab		1	3	1	COMP042, COMP041L, co req COMP112
COMP112	Information Management	2			2	COMP042, COMP041L, co req COMP111L
CSIT131L	Quantitative Methods Lab		1	3	1	COMP042, COMP041L, co-req CSIT132
CSIT132	Quantitative Methods	2			2	COMP042, COMP041L, co-req CSIT131L
CSIT361L	Object-Oriented Programming Lab		1	3	1	COMP332, COMP331L, co-req CSIT361-L
CSIT362	Object-Oriented Programming	2			2	COMP332, COMP331L, co-req CSIT362
GEC023	Mga Babasahin Hinggil sa Kasaysayan ng Pilipinas	3			3	
GECELEC2	The Entrepreneurial Mind	3			3	
IT111B-L-23	Web Technologies II Lab		1	3	1	IT112A-23, IT111A-L-23, , co-req IT112B-23
IT112B-23	Web Technologies II	2			2	IT112A-23, IT111A-L-23, co-req IT111B-L-23
NSTP2-18	National Service Training Program 2	3			3	NSTP1-18
PATHFIT2022	Exercise Based Fitness Activities	2			2	PATHFIT1002
RELED063	Contemporary Issues in Christian Marriage	3			3	RELED053
	Total	**22**	**4**	**12**	**26**	
SECOND YEAR, Second Semester						
CSIT141A-L-23	Software Engineering I Lab (Mobile Programming 1)		1	3	1	CSIT362, CSIT361L, co-req CSIT142A
CSIT142A	Software Engineering I	2			2	CSIT362, CSIT361L, co-req CSIT141A-L-23

Code	Course Title	Lec	Lab	Hrs	Units	Pre-requisite / Co-requisite
CSIT251L-23	Fundamentals of Networking Lab		1	3	1	COMP302-23, COMP301L-23, co-req CSIT252-23
CSIT252-23	Fundamentals of Networking	2			2	COMP302-23, COMP301L-23, co-req CSIT251L-23
CSIT311L	Database Systems Lab		1	3	1	COMP112, COMP111L, co-req CSIT312
CSIT312	Database Systems	2			2	COMP112, COMP111L, co-req CSIT311L
GEC013	Science, Technology, and Society	3			3	
GECELEC1	Living in the IT Era	3			3	
GECELEC3	Philippine Pop Culture	3			3	
ITELEC-1	IT Elective 1	3			3	IT112B-23, IT111B-L-23
PATHFIT3032	Individual/Dual Sports	2			2	PATHFIT1002, PATHFIT2022
RELED083	Christian Ethics	3			3	RELED053
	Total	23	3	9	26	

THIRD YEAR, First Semester

Code	Course Title	Lec	Lab	Hrs	Units	Pre-requisite / Co-requisite
COMP461L	Applications Development and Emerging Technologies Lab		1	3	1	CSIT312, CSIT311L, co-req COMP462
COMP462	Applications Development and Emerging Technologies	2			2	CSIT312, CSIT311L, co-req COMP461L
CSIT141B-L-23	Software Engineering II Lab (Mobile Programming 2)		1	3	1	CSIT142A, CSIT141A-L-23 co-req CSIT142B
CSIT142B	Software Engineering II	2			2	CSIT142A, CSIT141A-L-23 co-req CSIT141B-L-23
CSIT343	Fundamentals of Information Assurance and Security	3			3	CSIT252-23, CSIT251L-23
GEC033	Mathematics in the Modern World	3			3	
IT251LB-L	Advance Networking Lab		1	3	1	CSIT252-23, CSIT251L-23, co-req IT252B
IT252B	Advance Networking	2			2	CSIT252-23, CSIT251L-23, co-req IT251LB-L
IT451L	Introduction to Cloud Computing Lab		1	3	1	CSIT252-23, CSIT251L-23, CSIT312, CSIT311L, ITELEC-1 ,co-req IT452
IT452	Introduction to Cloud Computing	2			2	CSIT252-23, CSIT251L-23, CSIT312, CSIT311L, ITELEC-1, co-req IT451L
ITELEC-2	IT Elective 2	3			3	ITELEC-1
PATHFIT4042	Contemporary Dance	2			2	PATHFIT1002, PATHFIT2022
RELED073	Contemporary Issues About Church and Human Society with Immersion	3			3	RELED053
	Total	22	4	12	26	

THIRD YEAR, Second Semester

Code	Course Title	Lec	Lab	Hrs	Units	Pre-requisite / Co-requisite
CSIT371L	Integrative Programming and Technologies I Lab		1	3	1	COMP462, COMP461L, co-req CSIT372
CSIT372	Integrative Programming and Technologies I	2			2	COMP462, COMP461L, co-req CSIT371L
IT203A-23	Systems Integration and Architecture	3			3	CSIT142B, CSIT141B-L-23, co-req IT-CP1
IT461L	Advance Cloud Computing Lab		1	3	1	IT452, IT451L, co-req IT462
IT462	Advance Cloud Computing	2			2	IT452, IT451L, co-req IT461L
IT473	Advance Information Assurance and Security	3			3	CSIT343, co-req ITELEC-3
IT-CP1	Capstone Project I	3			3	CSIT142B, CSIT141B-L-23, co-req IT203A-23
ITELEC-3	IT Elective 3	3			3	ITELEC-2, co-req IT473
LQEC23-023	Letran Quality Enrichment Course II (21st Century Literacy Skills & Life Skills and Sustainability)	3			3	LQEC23-013
	Total	19	2	6	21	

FOURTH YEAR, First Semester

Code	Course Title	Lec	Lab	Hrs	Units	Pre-requisite / Co-requisite
CSIT183	Social Issues and Professional Practice	3			3	CSIT372, CSIT371L, co-req IT482, IT481L
GEC043	Contemporary World	3			3	
IT481L	Systems Administration and Maintenance Lab		1	3	1	IT462, IT461L, IT473, co-req IT482
IT482	Systems Administration and Maintenance	2			2	IT462, IT461L, IT473, co-req IT481L
IT-CP2	Capstone Project II	3			3	IT-CP1

_____	ITElec-4	IT Elective 4		3		3	ITELEC-3
_____	RZL023	Buhay at Mga Akda ni Rizal		3		3	
			Total	17	1	3	18

FOURTH YEAR, Second Semester

_____	IT-PRC6	*Practicum (600 hrs)		6		6	IT-CP2
			Total	6	0	0	6
		GRAND TOTAL		147	20	60	167

Professional Electives

Internet of Things

BlockChain Technology

Machine Learning

Artificial Intelligence

Technopreneurship

Robotic Process Automation

Virtual Reality and Augmented Reality

Practicum/Internship - No simultaneous enrolment is allowed.

jrd/12092022

COURSE DESCRIPTION

I. GENERAL EDUCATION COURSES

A. CORE COURSES

GEC003 - Understanding the Self 3 units

The course discusses the nature of identity, its factors and forces that affect the development and maintenance of personal identity. It is intended to facilitate the exploration of the issues and concerns regarding self and identity to arrive at a better understanding of one's self. It strives to meet this goal by stressing the integration of the personal with the academic — contextualizing matters discussed in the classroom and in the everyday experiences of students — making for better learning, generating a new appreciation for the learning process, and developing a more critical and reflective attitude while enabling them to manage and improve their selves to attain a better quality of life.

This also includes mandatory topics on Family Planning and Population Education. *Pre-req: None; Co-req: None*

GEC013 - Science, Technology, and Society 3 units

The course deals with interactions between science and technology and social cultural, political, and economic contexts, which shape and are shaped by them.
The interdisciplinary course engages students to confront the realities brought about by science and technology in society. Such realities pervade the personal, the public, and the global aspects of our living and are integral to human development. Scientific knowledge and technological development happen in the context of society with all its socio-political, cultural, economic, and philosophical underpinnings at play. This course seeks to instill reflective knowledge in the students that they are able to live the good life and display ethical decision making in the face of scientific and technological advancement.

This also includes discussion of climate change and environmental awareness as well as the implementation of the different environmental protection laws. *Pre-req: None; Co-req: None*

GEC023 - Mga Babasahin Hinggil sa Kasaysayan ng Pilipinas 3 units

Ang kursong ito ay tumatalakay sa mga piling primaryang sanggunian ukol sa iba't ibang yugto ng kasaysayan ng Pilipinas, pagsusuri at interpretasyon. Isasama din ang pagtalakay sa konstitusyon ng Pilipinas simula sa taong 1899 hanggang sa taong 1987. Ganun din ang pagtalakay sa repormang agraryo. Gayundin ang pagtalakay sa pagbubuwis bilang instrumento ng pamahalaan. Ito ay may kaugnayan sa tibay ng pagbubuwis bilang isa sa tatlong kapangyarihan ng pamahalaan na nakasaad sa Saligang Batas taong 1987. *Pre-req: None; Co-req: None*

GEC033 - Mathematics in the Modern World 3 units

The course discusses the nature of Mathematics, appreciation of its practical, intellectual, and aesthetic dimensions, and application of mathematical tools in daily life. *Pre-req: None; Co-req: None*

GEC043 - The Contemporary World   3 units

The course discusses globalization and its impact on individuals, communities and nations, challenges and responses. It introduces students to the contemporary world by examining the multifaceted phenomenon of globalization. Using the various disciplines of the social sciences, it examines the economic, social, political, technological, and other transformations that have created an increasing awareness of the interconnectedness of people and places around the globe. It provides an overview of the various debates in global governance, development, and sustainability. Beyond exposing the student to the world outside the Philippines, it seeks to inculcate a sense of global citizenship and global ethical responsibility.

This also includes mandatory topics on population education in the context of population and demography. *Pre-req: None; Co-req: None*

GEC053 - Art Appreciation   3 units

The course discusses the nature, function and appreciation of the arts in contemporary society. It intends to develop students' ability to appreciate, analyze, and critique works of art. Through interdisciplinary and multimodal approaches, this course equips students with a broad knowledge of the practical, historical, philosophical, and social relevance of the arts. This will hone their ability to articulate their understanding of the arts. It will also develop students' competency in researching and curating arts as well as conceptualizing, mounting, and evaluating art productions. The course aims to develop students' genuine appreciation for Philippine arts by providing them opportunities to explore the diversity and richness and their rootedness in Filipino culture. *Pre-req: None; Co-req: None*

GEC063 - Purposive Communication   3 units

The course discusses writing, speaking and presenting to different audiences and for various purposes. It develops students' communicative competence and enhances their cultural and intercultural awareness through multimodal tasks that provide them opportunities for communicating effectively and appropriately to a multicultural audience in a local or global context. It equips students with tools for critical evaluation of a variety of texts and focuses on the power of language and the impact of images to emphasize the importance of conveying messages responsibly. *Pre-req: None; Co-req: None*

GEC073 – Ethics   3 units

This course covers the context and tenets of ethical behavior in modern society including how individuals and communities interact with the environment and other common resources. It helps one to enhance their grasp of ethics and moral reasoning through the study of numerous theoretical viewpoints and moral experiences that make up so much of the core of daily life. By the end of the course, students should be able to articulate why and how people are seen as moral beings existing in a moral universe with a responsibility to protect themselves, one another, and the environment for everyone. *Pre-req: None; Co-req: None*

B. GENERAL EDUCATION ELECTIVE COURSES

GECELEC1 - Living in the IT Era   3 units

This general education elective course discusses how information technology shaped that way of life in the

modern era. It discusses the science, culture and ethics information technology as well as how it affects contemporary life and interpersonal interactions and the way it may be used to promote one's social, professional, and personal goals. *Pre-req: None; Co-req: None*

GECELEC2 - The Entrepreneurial Mind   3 units
This general education elective course focuses on the nature and fundamentals of entrepreneurship as well as its societal responsibilities and repercussions. It is designed to assist students comprehend the business environment and encourage individuals adopt and innovative mindset. *Pre-req: None; Co-req: None*

GECELEC3 - Philippine Popular Culture   3 units
This general education elective course focuses on the emerging potential and expectation of mass audiences, markets and mass media, as well as their social, economic, and political settings, in the field of art, music, and literature. By the completion of the course, students should be able to demonstrate their appreciation of traditional and modern cultural expressions of as well as identify, analyze and develop trends in Philippine culture that have been inspired by various internal and external influences. *Pre-req: None; Co-req: None*

C. CHED MANDATORY COURSES

RZL023 - Buhay at Mga Akda ni Rizal   3 units
Ito'y isang pag-aaral sa buhay at gawa ni Gat. Jose Rizal at ang kaugnayan at kahalagahan sa nilalaman ng pangkasaysayang pagsulong ng lipunang Pilipino. Gamit ang istratehiyang 'Dambana" kung saan ang mag-aaral ay maglalaan ng panahon sa Bahay-Rizal sa Calamba, ang mag-aaral ay magiging kabahagi ng Rizal Shrine staff sa edukasyong pangkasaysayan ng mga panauhin sa Bahay-Rizal. *Pre-req: None; Co-req: None*

D. INSTITUTIONAL MANDATED COURSES

LQEC23-013 - Letran Quality Enrichment Course I (Letran Calamba Identity and 21st Century Learning Skills)   3 units
LQEC 1 is an enhancement course that is designed to introduce the identity of Colegio de San Juan de Letran Calamba including its history, Dominican spirituality, mission, vision, quality objectives, policies , processes and services. It also introduces the "Four Cs" of 21st Century Learning: Critical Thinking, Creativity, Collaboration and Communication that aims to enhance students' knowledge and awareness of the essential communication concepts and establish deep comprehension of the processes in a creative manner.
Furthermore, it helps the learners to formulate logical and well-thought-out reasoned judgments and promote active engagement with others to achieve a common goal. Pre-req: None; Co-req: None

LQEC23-023 - Letran Quality Enrichment Course II (21st Century Literacy Skills & Life Skills and Sustainability)   **3 units**

LQEC 2 is an enhancement course that is designed to provide basic understanding about leadership, flexibility, initiative, social skills and productivity. It also introduces digital literacy which focuses on fundamental understanding of media, technology, and information as tools for communication and the advancement of people and communities.

Moreover, the course also introduces the concept of Environment, Social, and Governance (ESG) which determines an organization's commitment to sustainability. All of these are necessary to help the learners become competitively employable in the future of work. *Pre-req: LQEC23-013; Co-req: None*

RELED053 - The Catholic Christian Faith   **3 units**

This course deals with the basic Catholic Christian Doctrine. It highlights the 12 articles of faith in the Apostles Creed, as well as the Sacred Scripture. Thus it guides the students to a life of truth, fidelity and worship to God. *Pre-req: None; Co-req: None*

RELED063 - Contemporary Issues in Christian Marriage   **3 units**

Contemporary Issues in Christian Marriage is a three unit academic subject. The emphasis of the course is on Marriage and Family presented as a vocation and a sacrament. The study prepares the students for the reception of the sacrament and achievement of a better outlook on the realities and complexities of the married state and family life. *Pre-req: RELED053; Co-req: None*

RELED073 - Contemporary Issues About Church and Human Society with Immersion   **3 units**

Contemporary Issues About Church and Human Society with Immersion is a three unit academic subject. This course studies the seven themes of the social teachings of the Catholic Church. It also tackles contemporary social issues which hamper the development of our country. An integral part of the course is Makipamuhay, a learning strategy that allows students to experience direct contact with the oppressed in society specifically the rural poor and leads them to develop personal as well as communal witnessing to authentic Christian faith. *Pre-req: RELED053; Co-req: None*

RELED083 - Christian Ethics   **3 units**

This course presents the foundations and fundamentals of Christian Ethics and their application to issues and concerns related to the Ten Commandments. *Pre-req: RELED053; Co-req: None*

E. PHYSICAL EDUCATION COURSES

PATHFIT1002 - Movement Competency Training   **2 units**

This course provides training in different movement and core engagement in conjunction with principles of healthy and physical active life. Students will be able to adopt and transfer the movement competency in different contexts. *Pre-req: None; Co-req: None*

PATHFIT2022 - Exercise-Based Fitness
2 units

This course provides experiences in core stability, strength, and mobility training. It includes goal setting exercise progression and regression and periodic assessment for the development of various fitness component. *Pre-req: PATHFIT1002; Co-req: None*

PATHFIT3032 - Individual/Dual Sports
2 units

This course puts emphasis on gaining basic knowledge of individual/dual sports, fitness and lifetime activities. It also includes different kinds of individual/dual sports. Students will learn the skills and game strategies for each sport as well as their historical background and terminology. Activities promote participation in physical activity to achieve good health and wellness. *Pre-req: PATHFIT1002, PATHFIT2022; Co-req: None*

PATHFIT4042 - Contemporary Dance
2 units

This course provides the students the foundations of contemporary dance technique and execution. It focuses on various movement concepts at each level, particularly designed solos, and the integration of organized improvisation to provide students, the opportunity to explore and come up with their own movement language. It encourages creativity by fusing elements of jazz, modern dance, lyrical dance, classical ballet, and other disciplines. *Pre-req: PATHFIT1002, PATHFIT2022; Co-req: None*

F. NATIONAL SERVICE TRAINING PROGRAM

NSTP1-18 - National Service Training Program 1
3 units

The National Service Training Program 1 is a curricular offering consisting of lectures and trainings on citizenship, values education, environment and drug education, disaster management, transformational leadership, dimensions of development and literacy and numeracy skills aimed to empower the youth as potential community leaders toward national development. *Pre-req: None; Co-req: None*

NSTP2-18 - National Service Training Program 2
3 units

The National Service Training Program 2 is a sequel to NSTP1. This course is designed to equip the students with the fundamentals of project identifications, planning implementation and evaluation which include but is not limited to lecture and training on social mobilization, community development, and community service. The students are required to undergo the process of community immersion in pursuit of applying the concepts learned in contributing to the general welfare of in the Colegio's partner communities. *Pre-req: NSTP1-18; Co-req: None*

II. PROFESSIONAL COURSE

COMMON COMPUTING COURSES

COMP302-23 - Introduction to Computing
2 units

This course will discuss the computing industry and computing profession, computing research and its applications in different fields, as well as an appreciation of computing in various fields like medicine, biology, sociology, environment, and gaming.

Furthermore, the history of the computer, computer organization and architecture, computer security, and Internet and Internet protocols will also be discussed. *Pre-req: None; Co-req:COMP301L-23*

COMP301L-23 - Introduction to Computing Lab   **1 unit**
This course helps students develop skills in computer troubleshooting, spreadsheets data manipulation, and current IT trends. At the end of this course, students will be able to evaluate, install, configure, maintain, and troubleshoot computer hardware components and operating systems, as well as use basic to advanced features of spreadsheet software to manipulate and represent data. They will also be able to use current IT trends to solve problems. *Pre-req: None; Co-req:COMP302-23*

COMP312 - Computer Programming I   **2 units**
The course covers the use of general-purpose programming to solve problems. The emphasis is to train students to design, implement, test, and debug programs intended to solve computing problems using fundamental programming constructs. It discusses flowcharting and pseudo-coding as requirements in problem-solving using C language. These tools are intended to develop the student's analytical and logical thinking. This course also focuses on simple data types, control structures, functions, and an introduction to array and string data structures as well as debugging techniques. *Pre-req: None; Co-req: COMP311L*

COMP311L - Computer Programming I Lab   **1 unit**
This course provides students an avenue to apply the theories that have been discussed in COMP312 (Computer Programming I). Intense laboratory activities are provided to the students to hone them to have analytical and logical thinking. At the end of this course, the students can create and evaluate solutions to programming problems. *Pre-req: None; Co-req: COMP312*

COMP332 - Computer Programming II   **2 units**
This course helps students develop skills in problem-solving using a general-purpose programming language. The emphasis is to train students to design, implement, test, and debug programs intended to solve computing problems using basic data structures and standard libraries. *Pre-req: COMP312, COMP311L, Co-req COMP331L*

COMP331L - Computer Programming II Lab   **1 unit**
The course is the actual laboratory application of the different theories discussed in COMP332 (Computer Programming II). At the end of the course, the students can create Object- Oriented Based solutions to programming problems. *Pre-req: COMP312, COMP311L, Co-req COMP332*

COMP112 - Information Management   **2 units**
The course covers topics in information management, database design, data modeling, and SQL implementation using a relational database system. *Pre-req: COMP312, COMP311L, Co req COMP111L*

COMP111L - Information Management Lab
1 unit

The course is the actual laboratory application of the different theories discussed in COMP112 (Information Management). At the end of the course, the students can design a database using a Database Management System suitable to the data requirements of a system. *Pre-req: COMP312, COMP311L, Co-req: COMP112*

COMP462 - Applications Development & Emerging Technologies
2 units

This course deals with the development of applications using the web, mobile, and emerging technologies, emphasizing requirements management, interface design, usability, testing, and deployment with considerations of ethical and legal factors. *Pre-req: CSIT142A, CSIT141A-L-23, co-req: COMP461L*

COMP461L - Applications Development & Emerging Technologies Lab
1 unit

This course enables the students to develop applications using emerging technologies which were discussed in COMP462. *Pre-req: CSIT142A, CSIT141A-L-23, co-req: COMP462*

COMP042 - Data Structures and Algorithms
2 units

This course covers fundamental data structure, algorithms, and abstract data types. The topics included are stacks, queues, trees, graphs, maps, and sets. Furthermore, algorithms used for list manipulation graph searches, sorting, searching, and tree traversals are also covered. *Pre-req: None, Co-req: COMP041L*

COMP041L - Data Structures and Algorithms Lab
1 unit

This course teaches the student how to develop a software solution to a problem using appropriate data structures and algorithms. The students should be able to demonstrate as well that the algorithm used in solving the problem is the most efficient by defending his/her work. *Pre-req: None; Co-req: COMP042*

A. INFORMATION TECHNOLOGY PROFESSIONAL COURSES

CSIT323-23 – Introduction to Discrete Structures
3 units

This course covers the mathematics that underlies most of computer science, which are the fundamental mathematical concepts and reasoning along with problem-solving techniques. Topics covered include inferencing, proof methods, propositional logic, predicate logic, set, set operations, proofs, growth of function, number theory, binary relations, trees, graphs, and functions. *Pre-req: None; Co-req: None*

IT112A-23 - Web Technologies I
2 units

In this course, the students will be taught about the structure and functionality of the World Wide Web, writing, debugging, and maintaining the latest HTML, CSS, and JavaScript code, applying essential programming language concepts when creating HTML forms, selecting an appropriate web hosting service, and publishing simple, dynamic and responsive web pages. *Pre req: COMP312, COMP311L; Co-req: IT111A-L-23*

IT111A-L-23 - Web Technologies I Lab   1 unit

In this course, students will learn how to design and develop simple, dynamic, and responsive web pages using the latest HTML, CSS, and JavaScript code. At the end of the course, the students should be able to create and publish personal or business web pages. *Pre req: COMP312, COMP311L; Co-req: IT112A-23*

CSIT132 - Quantitative Methods   2 units

This course discusses the range of mathematical and statistical techniques used to analyze typical problems in technology. Topics include data collection, descriptive statistics calculation, hypo testing, sampling, continuous and discrete distribution, probability, ANOVA, and related topics. *Pre req: COMP042, COMP041L; Co-req: CSIT131L*

CSIT131L - Quantitative Methods Lab   1 unit

This course is the application of the theories in CSIT132 (Quantitative Methods). At the end of this course, students will be able to develop and explore new quantitative tools to improve data analysis of data and technology research. Using statistical theory, simulation studies, and applied examples. *Pre req: COMP042, COMP041L; co-req: CSIT132*

CSIT332 - Introduction to Human-Computer Interaction   2 units

The course will discuss user-centered software design; (1) principles of and methods for understanding user needs, designing and prototyping interface solutions, and evaluating their usability, (2) their applications in designing web-based, mobile, and embodied interfaces. *Pre-req: None; Co-req: CSIT331L*

CSIT331L - Introduction to Human-Computer Interaction Lab   1 unit

In this course, students will learn how to design technologies that bring user interactive environment. Students learn several techniques for rapidly prototyping and evaluating multiple interface alternatives and why rapid prototyping and comparative evaluation are essential to excellent interaction design. *Pre-req: None; Co-req: CSIT332*

CSIT362 - Object-Oriented Programming   2 units

This course provides the students with a fundamental understanding of object-oriented programming using Java. This course intends to increase the student's knowledge and skills needed to develop reusable quality programs, and instruct students on the use of object-oriented tools such as UML for modeling problem solutions. *Pre req: COMP332, COMP331L; Co-req: CSIT361L*

CSIT361L - Object-Oriented Programming Lab   1 unit

This course will train the students to write simple to complex java applications by using classes, objects, methods, and instance variables. *Pre req: COMP332, COMP331L; Co-req: CSIT362*

CSIT252-23 – Fundamentals of Networking
2 units

The course focuses on the data communication between computer installation and system transmission, media and methods, switching types, network topology, line control procedures, routing and flow control, and line capacity assignment. It also covers file transfer protocols. Basic network interface components, network protocols, internetworking devices, selecting, installing, managing, and using networks, network security, and computer network design. *Pre-req: COMP302-23, COMP301L-23; Co-req: CSIT251L-23*

CSIT251L-23 - Fundamentals of Networking Lab
1 unit

The course will teach the students how to create different types of cabling used in networking. This will also cover the creation of single multiple local area networks as well as configuring client and server operating systems and connecting the client machine to the server. *Pre-req: COMP302-23, COMP301L-23; Co-req: CSIT252-23*

IT112B-23 - Web Technologies II
2 units

This course will train students on designing and developing functional, secured, responsive, scalable modern web applications using HTML, PHP, and mySQL. Furthermore, the different social, legal, ethical, and professional issues relating to web applications will be taught. Pre req: IT112A-23, IT111A-L-23; Co-req: IT111B-L-23

IT111B-L-23 - Web Technologies II Lab
1 unit

In this course, students are expected to demonstrate their ability to plan, design, develop, debug, and maintain a business web application using HTML, PHP, and MySQL putting into consideration the different characteristics of a modern web application. *Pre req: IT112A-23, IT111A-L-23; Co-req: IT112B-23*

CSIT142A - Software Engineering I
2 units

The course covers the software development life cycle, focusing on data collection, analysis of software requirements, system design and modeling, and up to prototyping. Students will learn the distinctions between structured and object-oriented approaches to software analysis, and modeling, as well as waterfall-based and agile-based in software development. At the end of this course, students are required to demonstrate and defend the suitability of their computing solutions and approaches to various audiences. *Pre-req: CSIT362, CSIT361L; Co-req: CSIT141A-L-23*

CSIT141A-L-23 – Software Engineering I Lab (Mobile Programming 1)
1 unit

This course provides students an avenue to apply the principles of CSIT142A (Software Engineering I) through Android programming. Application of Android Services & APIs, activities, views and controls, and DBMS utilizing SQLite for simple CRUD (Create, Read, Update and Delete) will be provided to the students. *Pre req: CSIT362, CSIT361L; Co-req: CSIT142A*

IT252B – Advance Networking   2 units
This course extends your understanding of computer networking. It deepens your knowledge of Routing Protocols and introduces you to switched networks. You will develop skills in the Command Line Interface configuration of switches, port security, VLANs, VTP, and inter-VLAN routing as well as switch security, routing, and MLS. It deepens your knowledge of wireless networks and also Wide Area Networks with emphasis on directly connected serial links, PPP authentication, and redundancies technologies. You will develop skills in the configuration of advanced IP addressing techniques and the implementation of Access Control Lists. *Pre req: CSIT252-23, CSIT251L-23; Co-req: IT251LB-L*

IT251LB-L – Advance Networking Lab   1 unit
Describes the architecture, components, and operations of routers and switches in a small network. Students learn how to configure a router and a switch for basic functionality. By the end of this course, students will be able to configure and troubleshoot routers and switches and resolve common issues with RIPv1, RIPv2, single-area, and multi-area OSPF, virtual LANs, and inter-VLAN routing in both IPv4 and IPv6 networks. *Pre req: CSIT252-23, CSIT251L-23; Co-req: IT252B*

CSIT312 - Database Systems   2 units
This course deals with distributed database design, query and transaction processing, data integration, data warehousing, data cleansing, management of spatial data, and data from large-scale distributed devices. *Pre-req: COMP112, COMP111L; Co-req: CSIT311L*

CSIT311L - Database Systems Lab   1 unit
This course is the actual application of designing, query and transaction processing, data integration, data warehousing, data cleansing, management of spatial data, and data from large-scale distributed devices of Distributed databases. At the end of the course, students will be able to learn how to create and design databases for a system. *Pre req: COMP112, COMP111L; Co-req: CSIT312*

IT452 – Introduction to Cloud Computing   2 units
Students will learn the core concepts of cloud computing. Specifically, topics include the overview of cloud computing, cloud systems, parallel processing in the cloud, distributed storage systems, virtualization, security in the cloud, and multicore operating systems. *Pre-req: CSIT252-23, CSIT251L-23, CSIT312, CSIT311L, ITELEC-1; Co-req: IT451L*

IT451L – Introduction to Cloud Computing Lab   1 unit
This course provides students an avenue to apply the concepts that have been discussed in CSIT432 (Introduction to Cloud Computing). Students will learn how to configure virtualization tools, design and deploy a web application in a PaaS environment, and simulate a cloud environment to implement new schedulers. Furthermore, installing and using a generic cloud environment that can be used as a private cloud, and manipulating large data sets in a parallel environment will be discussed. *Pre-req: CSIT252-23, CSIT251L-23, CSIT312, CSIT311L,ITELEC-1; Co-req: IT452*

CSIT142B - Software Engineering II
2 units

This course is the continuation of CSIT142A - Software Engineering I. It focuses on the following phases: system testing, software revision, and system maintenance. At the end of the course, students are expected to present the final prototype, the findings of the software testing, and the system maintenance plan. *Pre-req: CSIT142A, CSIT141A-L-23; Co-req: CSIT141B-L-23*

CSIT141B-L-23- Software Engineering II Lab (Mobile Programming 2)
1 unit

This course will teach students how to use the more advanced features in Android programming which includes database operations, location-based services, Google Maps, Bluetooth, WIFI, cloud, camera, sensors, and Google Play Store deployment. At the end of the course, the students should be able to integrate these features into the mobile application being developed. *Pre-req: CSIT142A, CSIT141A-L-23; Co-req: CSIT142B*

CSIT343 -Fundamentals of Information Assurance and Security
3 units

This course discusses the information systems security models, software security, policy development, personnel responsibilities, contingency planning, physical security, administrative controls, and information security assessment methods. Furthermore, this course also includes technologies for assurance and vulnerability analysis and intrusion detection. *Pre req: CSIT252-23, CSIT251L-23; Co-req: None*

IT462 – Advance Cloud Computing
2 units

Students will have an in-depth understanding of cloud computing. It concentrates on cloud architecture, cloud development life-cycle, cloud operations, and cloud governance. *Pre req: IT452, IT451L, Co-req: IT461L*

IT461L – Advance Cloud Computing Lab
1 unit

Description: This course provides students an avenue to perform the different phases of the cloud development life cycle. Students are expected to design a cloud architecture, create content in a virtual environment, and manage cloud solutions. *Pre req: IT452, IT451L, Co-req: IT462*

CSIT372 - Integrative Programming and Technologies I
2 units

The course addresses the use of architectures, application programming interfaces, and programming practices to facilitate the management, integration, and security of the systems that support an organization. *Pre req: COMP462, COMP461L; Co-req: CSIT371L*

CSIT371L - Integrative Programming and Technologies I Lab
1 unit

The course content is based on open-source software such as PHP or closed-source software such as Active Server Pages (ASP). The software to use will be Active Server Pages (ASP) as a server-side scripting architecture for building dynamic web applications, and an ideal environment for building web-based commerce solutions. *Pre req: COMP462, COMP461L; Co-req: CSIT372*

IT203A-23 - Systems Integration and Architecture 3 units
This course discusses the process of integrating various systems and software to form a single cohesive architecture using an appropriate system integration architecture, methodologies, and technologies. At the end of the course, the students are expected to design a feasible solution for a system integration problem. *Pre req: CSIT142B, CSIT141B-L-23; Co-req: IT-CP1*

IT473 -Advance Information Assurance and Security 3 units
This course provides an in-depth examination of the fundamental principles of information assurance and security. The following are the covered topics, authentication, integrity, and confidentiality of distributed systems, network security, malware, privacy, intrusion detection, and intellectual property protection. Furthermore, this course will require students to do a research study that intends to solve challenging problems in wireless networks and cyber security, with a particular focus on authentication, integrity, and confidentiality of distributed systems, network security, malware, privacy, intrusion detection, and intellectual property protection. *Pre req: CSIT343; Co-req: ITELEC-3*

IT482 - Systems Administration and Maintenance 2 units
This course focuses on the management and maintenance of Microsoft Windows and Linux operating systems within a network environment. The development of administrative policies and processes as well as the installation, maintenance, and expansion of multi-user computer systems will be discussed. Additionally, students will learn how to use problem-solving and troubleshooting techniques to address user and system concerns. *Pre req: IT462, IT461L, IT473; Co-req: IT481L, CSIT183*

IT481L - Systems Administration and Maintenance Lab 1 unit
This course focuses on the administration of operating systems in client-server technology (Windows and Linux on a virtual machine), installation, and maintenance. It prepares students for installation of Windows Server, NTFS file system and folder permissions, Domain Name System, Active Directory, local and domain Group Policy, Windows Terminal Services, Internet Security and Acceleration Server, Internet Information Services, communications, and networking. An introduction to Linux, installing Ubuntu, advanced usage and managing Ubuntu, terminal, working with Windows, system administration, configuration of server: WWW, DHCP, DNS, Samba, NFS, emails, and printers. *Pre req: IT462, IT461L, IT473; Co-req: IT482, CSIT183*

CSIT183 - Social Issues and Professional Practice 3 units
In this course, the students will be taught about the relevant local and global impact of information technology on individuals, organizations, and society. Furthermore, the students should be able to understand the professional, ethical, legal, security, and social issues and responsibilities in the development and utilization of information technology. *Pre req: CSIT372, CSIT371L; Co-req: IT422, IT421L*

IT-CP1 - Capstone Project I 3 units
This course integrates the different knowledge, skills, and competencies learned in the curriculum through crafting a research proposal that will provide an innovative computing solution to a real-world problem/issue/concern. At the end of the course, the students should successfully pass the proposal defense. *Pre req: CSIT142B, CSIT141B-L-23; Co-req: IT203A-23*

IT-CP2 - Capstone Project II   3 units

This course is the continuation of IT-CP1- Capstone Project I and will require the students to develop and test the innovative computing solution. Furthermore, the students should be able to provide an implementation and maintenance plan. At the end of the course, the students should successfully pass the final oral defense of their capstone project. *Pre req: IT-CP1; Co-req: None*

IT-PRC6 - Practicum (600hrs)   6 units

This course allows students to apply their knowledge, skills, and attitude in a corporate environment through internship / OJT / practicum. Furthermore, through this course, the students have the opportunity to be in an actual work setting related directly or indirectly to the field of information technology. *Pre req: IT-CP-2; Co-req: None*

B. PROFESSIONAL ELECTIVES

Internet of Things   3 units

This course is intended to teach students a deep understanding of IoT technologies and system design concepts which exploit networking, sensing, big data, security enforcement, data science and artificial intelligence technology to develop a system.

Blockchain Technology   3 units

The course will discuss the foundational overview of how Blockchain evolves in the technology that help students to practically understand and effectively demonstrate the meaningful capacity for innovation and efficiency in business, be knowledgeable in distributed ledgers, Blockchain technology and cryptocurrencies.

Machine Learning   3 units

This course provides students the fundamental concepts, techniques, and algorithms in machine learning. Topics include introduction to machine learning, data preprocessing, regression and classification algorithms, and model evaluation. The course will teach students how to use machine learning techniques and provide a more formal knowledge of how, why, and when they are effective.

Artificial Intelligence   3 units

In this course students will learn the fundamentals of Artificial Intelligence (AI). Learn about the uses of AI and gain an understanding of terms and concepts including machine learning, deep learning, and neural networks. Students will be exposed to various issues and concerns surrounding AI such as ethics, bias, and jobs.

Technopreneurship   3 units

The course is intended to teach students entrepreneurial mindset and culture utilizing a technology or engineering background. This will fit into goals of starting a company or being involved in a technopreneurial or R&D effort in companies of all sizes and industries. This will cover topics such as introduction to technopreneurship, idea creation, feasibility and differentiation, market validation, and business planning and execution.

Robotics Process Automation **3 units**

This course will discuss the concepts of Robotic Process Automation and introduce key RPA Design and Development Strategies and Methodologies, specifically in the context of UiPath technology so that the students shall develop the competence to design and develop automation solutions for business processes.

Virtual Reality and Augmented Reality **3 units**

This course will provide students with the basic principles of virtual reality and augmented reality. The topics included are history of VR/AR, fundamental theory, interaction techniques, specific application areas, strengths and limitations of VR/AR technology and the human factors and cognitive issues that should be considered when using this medium. Furthermore, topics like computer vision, computer graphics and human computer interaction will be discussed in the context of virtual and augmented reality.

SCHOOL OF TOURISM AND HOSPITALITY MANAGEMENT

Vision

The School of Tourism and Hospitality Management envisions itself to be recognized as the School of International Tourism and Hospitality Management and the Center of Development in Tourism and Hospitality Management in the region in the year 2030.

Mission

In line with the Colegio's mission, the School commits to provide Tourism and Hospitality Management education imbued with Filipino, Dominican, and Christian values. The school endeavors to produce glocally competitive graduates in the field of Tourism and Hospitality Management through competency-based curriculum, industry-simulated facilities, and specialized instruction.

PROGRAM DESCRIPTION

The **Bachelor of Science in Hospitality Management** is a 4-year degree program that will equip students with competencies that are needed to execute operational tasks and management functions in food production (culinary), accommodation, food and beverage service, and other emerging sectors of Hospitality and Tourism Industry

Program Educational Objectives

Three to five years after graduation, the Bachelor of Science in Hospitality Management (BSHM) alumni shall:
1. Analyze challenges and respond with creativity and innovation as they manage successfully the daily operations in the workplace;
2. Communicate effectively in a multi-cultural environment;
3. Keep updated through training, graduate studies, professional affiliation, and/or practice;
4. Integrate Christian service and professional ethics in various areas of their career and profession;
5. Assume competent management role in the hospitality business and other related enterprise; and
6. Impart and share expertise to those in the academe and those pursuing continuing professional development.

Program Outcomes and Performance Indicators

Upon completion of Bachelor of Science in Hospitality Management (BSHM), the graduate, who is trained in a culture of conscience and excellence with Filipino, Dominican, and Christian in orientation, must be able to:

Program Outcomes	Performance Indicators
1. Articulate and discuss the latest developments in the specific field of practice	• Engage in continual learning in one's specialization
2. Effectively communicate orally and in writing using English, Filipino, mother tongue language, and an appropriate Foreign Language required by the industry	• Express oneself clearly in verbal or written forms the updates in one's career or vocation • Convey positive Filipino values in one's decisions and actions • Defend satisfactorily his/her thesis from a panel of experts • Display proficient conversational skills in Filipino, English and other foreign

	Filipino, English and other foreign languages used in the industry • Display proficient written skills in Filipino, English and other foreign languages used in the industry
3. Work effectively and independently in multi-disciplinary and multi-cultural teams	• Perform well as a team leader or member in any kind of group project or activity • Perform independently and cooperatively to accomplish worthwhile goals
4. Act in recognition of professional, social, and ethical responsibility	• Maintain stature and behavior that uphold the Professional Code of Ethics • Immerse in an actual working environment in industry
5. Preserve and promote Filipino historical and cultural heritage (based on RA No. 7722)	• Demonstrate responsible Filipino citizenship in local, national or international communities
6. Participate in various types of employment, development activities, and public discourses, particularly in response to the needs of the communities one serves	• Plan and take action for the welfare of the community • Continually engage oneself in development projects and activities that address the community needs

7. Manifest strong commitment and conviction to the Christian and Dominican teachings and philosophy in thoughts, words, and deeds	• Observe the Dominican values of study, prayer, community, and service • Uphold ecological consciousness and engage in environmental stewardship • Participate actively in the community's spiritual and social advocacy or extension program
8. Perform the basic functions of management such as planning, organizing, leading, and controlling	• Develop and defend a tourism development plan that incorporate relevant inputs such as laws, market research and feasibility study, product development, among others • Assume leadership role in hospitality related activities
9. Apply the basic concepts that underlie each of the functional areas of business (marketing, finance, human resources management, production and operations management, information technology, and strategic management) and employ these concepts in various business situations	• Apply the concept of management to assess and formulate operational plan • Employ essential strategy-related components and principles for decision making
10. Select the proper decision making tools to critically, analytically and creatively solve problems and drive results	• Apply appropriate quantitative tools to address a business case problem • Suggest sound solution to problems encountered in business operations

11. Apply information and communication technology (ICT) skills as required by the business environment	• Prepare a social media marketing plan • Create business advertisement using technology application
12. Manage conflict in the workplace	• Conduct a planning and problem solving meeting to resolve issues related to a planned business event. • Engage in activities that promote teamwork • Apply business ethics in dealing with guests and co-workers
13. Plan and implement business related activities	• Develop and defend a business plan for restaurant, hotel, or allied ventures incorporating sales and marketing principles and financial analysis • Identify methods, techniques, and devises appropriate in an organization in business implementation and process • Engage in entrepreneurial management
14. Demonstrate corporate and social responsibility	• Propose social responsibility strategies and compliance action plan for a business • Apply appropriate CSR technique in decision making • Participate in a corporate and social responsibility endeavor

15. Exercise high personal, moral, and ethical standards	• Exhibit honesty, fairness, equity, and good faith in dealing with other person
16. Demonstrate knowledge to the tourism industry local tourism products and services	• Identify premier tourist destinations in the country • Provide information on geographical location, cultural features, festivals and other tourist attractions of major local tourist destinations • Identify gastronomical features of each Regions in the Philippines
17. Interpret and apply relevant laws related to the tourism industry	• Source information on compliance and related issues which impact on the tourism industry • Identify legal and ethical issues related to the workplace and to the tourism industry in general
18. Observe and perform risk mitigation activities	• Identify workplace related hazards and risks • Perform work related activities in consideration to established safety and standards
19. Utilize information technology applications for tourism and hospitality	• Apply knowledge in information technology used by hotel and travel industry • Create a marketing tool using information technology

20. Manage and market a service oriented business organization	• Develop a marketing plan for hospitality and tourism business • Recommend simple business strategies for restaurant and travel businesses
21. Demonstrate administrative and managerial skills in a service oriented business organization	• Use the basic managerial skills in operating a business enterprise • Apply management practices based on the acceptable business standards
22. Prepare and monitor financial transactions and reports	• Identify entries in the financial statement used by business enterprise • Create a business financial statement
23. Perform human capital development functions of a tourism oriented organization	• Exhibit an effective understanding of human behavior in the tourism industry • Apply leadership skills in handling a team
24. Utilize various communication channels proficiently in dealing with guests and colleagues	• Clear and effective writing for different formats and platforms • Effective and responsible use of non-verbal cues, pictures, graphics, and images in oral, written, and online communication
25. Produce food products and services complying with enterprise standards	• Select appropriate cooking equipment to prepare standard recipes

	- Use equipment in a safe manner according to manufacturer's and enterprise procedures - Identify and solve problems in the application of cooking methods - Communicate with front of the house staff on the production/service of menu items
26. Apply management skills in F & B service and operations	- Conduct pre-opening briefing to the food and beverage team - Prepare detailed work schedule for the food production and service staff - Supervise food production and service based on the enterprise standards - Maintain smooth flow of food and beverage service operations - Address guest complaints in a professional manner
27. Perform and provide full guest cycle services for front office	- Perform skills in assessing the needs of the guest during pre-arrival, arrival, occupancy, and departure - Apply skills in receiving and processing guest reservation - Handle guest complaints in a timely and professional manner
28. Perform and maintain various housekeeping services for guest and facility operations	- Perform skills in housekeeping according to international standards

	- Formulate housekeeping recommendation on task execution - Respond to different guests concerns using appropriate judgment
29. Plan and implement a risk management program to provide a safe and secure workplace	- Identify key hazards and risks associated with individual work role - Follow safety procedures in accordance with enterprise requirements - Ensure work activities conforms with the enterprise safety program
30. Provide food and beverage service and manage the operation seamlessly based on industry standards	- Perform different types of food and beverage service based on industry standards - Effectively communicate with foreign and local guests - Handle guest complaints in a professional manner

BACHELOR OF SCIENCE IN HOSPITALITY MANAGEMENT
GENERAL SUMMARY OF COURSES

I. General Education Courses

A. Core Courses   **24**

GEC003	Understanding the Self	3
GEC013	Science, Technology, and Society	3
GEC023	Mga Babasahin Hinggil sa Kasaysayan ng Pilipinas	3
GEC033	Mathematics in the Modern World	3
GEC043	The Contemporary World	3
GEC053	Art Appreciation	3
GEC063	Purposive Communication	3
GEC073	Ethics	3

B. CHED Mandated Courses   **26**

a. Rizal Course

RZL023	Buhay at Mga Akda ni Rizal	3

b. Physical Education Courses

PATHFIT1002	Movement Competency Training	2
PATHFIT2022	Exercise Based Fitness Activities	2
PATHFIT3032	Individual/Dual Sports	2
PATHFIT4042	Contemporary Dance	2

c. National Service Training Program

NSTP1-18	National Service Training Program 1	3
NSTP2-18	National Service Training Program 2	3

d. GENED Elective Courses

GECELEC1	Living in the IT Era	3
GECELEC2	The Entrepreneurial Mind	3
GECELEC3	Philippine Pop Culture	3

C. Institutional Mandated Courses   **18**

a. Religious Education Courses

RELED053	The Catholic Christian Faith	3
RELED063	Contemporary Issues in Christian Marriage	3
RELED073	Contemporary Issues About Church and Human Society with Immersion	3
RELED083	Christian Ethics	3

b. Letran Quality Enrichment Courses

LQEC23-013	Letran Quality Enhancement Course I (Letran Calamba Identity and 21st Century Learning Skills)	3
LQEC23-023	Letran Quality Enhancement Course II (21st Century Literacy Skills & Life Skills and Sustainability)	3

II. Business and Management Education Courses   **6**

BMC143	Operations Management in Tourism and Hospitality Industry	3
BMC253	Strategic Management & Total Quality Management in Tourism and Hospitality Industry	3

III. Tourism and Hospitality Core   **30**

TH003	Macro Perspective of Tourism and Hospitality	3
TH013	Micro Perspective of Tourism and Hospitality	3
TH023	Professional Development and Applied Ethics	3
TH033	Risk Management as Applied to Safety, Security, and Sanitation	3
TH053	Quality Service Management in Tourism and Hospitality Industry	3
TH073	Multicultural Diversity in Workplace for the Tourism Professional	3
TH083	Philippine Culture and Tourism Geography	3

	TH093	Legal Aspects in Tourism and Hospitality	3
	TH103	Entrepreneurship in Tourism and Hospitality	3
	TH143	Tourism and Hospitality Marketing	3

IV. Hospitality Professional Courses — **33**

	FL073	Foreign Language 1	3
	FL083	Foreign Language 2	3
	HM061	Kitchen Essential and Basic Food Preparation	1
	HM062L	Kitchen Essential and Basic Food Preparation Lab	2
	HM072	Fundamentals in Food Service Operation	2
	HM071L	Fundamentals in Food Service Operation Lab	1
	HM102	Fundamentals in Lodging Operations	2
	HM101L	Fundamentals in Lodging Operations Lab	1
	HM113	Supply Chain Management in Hospitality Industry	3
	HM132-23	Applied Business Tools and Technologies For Hospitality Management	2
	HM131L-23	Applied Business Tools and Technologies For Hospitality Management Lab	1
	HM152	Ergonomics and Facilities Planning for the Hospitality Industry	2
	HM151L	Ergonomics and Facilities Planning for the Hospitality Industry Lab	1
	HM172	Introduction to Meeting Incentives, Conferences and Events Management (MICE)	2
	HM171L	Introduction to Meeting Incentives, Conferences and Events Management (MICE) Lab	1
	HMResA	Research in the Hospitality 1	3
	HMResB	Research in the Hospitality 2	3

V. Professional Elective Courses — **15**

	HMElec-1	Front Office Operation	3
	HMElec-3	Catering Management	1
	HMElec-3L	Catering Management Lab	2
	HMElec-5	Gastronomy (Food and Culture)	1
	HMElec-5L	Gastronomy (Food and Culture) Lab	2
	HMElec-6	Bread and Pastry	1
	HMElec-6L	Bread and Pastry Lab	2
	HMElec-7	Food and Beverage Cost Control	3

VI. Practicum/Work Integrated Learning — **6**

	HM-PRC6-23	Practicum (600 hours)	6

TOTAL UNITS **158**

BACHELOR OF SCIENCE IN HOSPITALITY MANAGEMENT
Curriculum Year 2023-2024

COURSE CODE	COURSE TITLE	Lec Units/Hrs	Lab Units	Lab Hrs	TOTAL	PRE-REQUISITES/ CO-REQUISITES
FIRST YEAR, First Semester						
GEC003	Understanding the Self	3			3	
GEC023	Mga Babasahin Hinggil sa Kasaysayan ng Pilipinas	3			3	
GEC033	Mathematics in the Modern World	3			3	
GEC043	The Contemporary World	3			3	
RELED053	The Catholic Christian Faith	3			3	
TH003	Macro Perspective of Tourism and Hospitality	3			3	
TH033	Risk Management as Applied to Safety, Security and Sanitation	3			3	
LQEC23-013	Letran Quality Enrichment Course I (Letran Calamba Identity and 21st Century Learning Skills)	3			3	
	Total	**24**	**0**	**0**	**24**	
FIRST YEAR, Second Semester						
GEC013	Science, Technology, and Society	3			3	
GEC063	Purposive Communication	3			3	
GECELEC1	Living in the IT Era	3			3	
HM061	Kitchen Essentials & Basic Food Preparation	1			1	TH033, co-req HM062L
HM062L	Kitchen Essentials & Basic Food Preparation Lab		2	4	2	TH033, co-req HM061
NSTP1-18	National Service Training Program 1	3			3	
PATHFIT1002	Movement Competency Training	2			2	
RELED083	Christian Ethics	3			3	RELED053
TH013	Micro Perspective of Tourism and Hospitality	3			3	TH003
LQEC23-023	Letran Quality Enrichment Course II (21st Century Literacy Skills & Life Skills and Sustainability)	3			3	LQEC23-013
	Total	**24**	**2**	**4**	**26**	
SECOND YEAR, First Semester						
GECELEC2	The Entrepreneurial Mind	3			3	
HM101L	Fundamentals in Lodging Operations Lab		1	2	1	TH013, co-req HM102
HM102	Fundamentals in Lodging Operations	2			2	TH013, co-req HM101L
NSTP2-18	National Service Training Program 2	3			3	NSTP1-18
PATHFIT2022	Exercise Based Fitness Activities	2			2	PATHFIT1002
RZL023	Buhay at Gawa ni Rizal	3			3	
TH053	Quality Service Management in Tourism and Hospitality	3			3	TH013
TH143	Tourism and Hospitality Marketing	3			3	TH013
	Total	**19**	**1**	**2**	**20**	
SECOND YEAR, Second Semester						
BMC143	Operations Management in Tourism and Hospitality Industry	3			3	TH053
GEC053	Art Appreciation	3			3	
GEC073	Ethics	3			3	
GECELEC3	Philippine Pop Culture	3			3	
HM071L	Fundamentals in Food Service Operations Lab		1	2	1	HM061, HM062L, co-req HM072

BACHELOR OF SCIENCE IN HOSPITALITY MANAGEMENT
Curriculum Year 2023-2024

COURSE CODE	COURSE TITLE	Lec Units/Hrs	Lab Units	Lab Hrs	TOTAL	PRE-REQUISITES/ CO-REQUISITES
HM072	Fundamentals in Food Service Operations	2			2	HM061, HM062L, co-req HM071L
HM131L-23	Applied Business Tools and Technologies For Hospitality Management Lab		1	2	1	TH053, co req HM132-23
HM132-23	Applied Business Tools and Technologies For Hospitality Management	2			2	TH053, co-req HM131L-23
PATHFIT3032	Individual and Dual Sports	2			2	PATHFIT2022
RELED063	Contemporary Issues in Christian Marriage	3			3	RELED053
TH083	Philippines Culture and Tourism Geography	3			3	TH143
	Total	24	2	4	26	

THIRD YEAR, First Semester

COURSE CODE	COURSE TITLE	Lec Units/Hrs	Lab Units	Lab Hrs	TOTAL	PRE-REQUISITES/ CO-REQUISITES
FL073	Foreign Language 1	3			3	
HMElec-1	Front Office Operation	3			3	TH003
HMElec-6	Bread and Pastry	1			1	HM061, HM062L, co-req HMElec-6L
HMElec-6L	Bread and Pastry Lab		2	4	2	HM061, HM062L, co-req HMElec-6
HMElec-7	Food and Beverage Cost Control	3			3	HM072, HM071L
PATHFIT4042	Contemporary Dance	2			2	PATHFIT1002, PATHFIT2022
RELED073	Contemporary Issues About Church and Human Society with Immersion	3			3	RELED053
TH023-23	Professional Development and Applied Ethics in Tourism and Hospitality Industry	3			3	TH053
	Total	18	2	4	20	

THIRD YEAR, Second Semester

COURSE CODE	COURSE TITLE	Lec Units/Hrs	Lab Units	Lab Hrs	TOTAL	PRE-REQUISITES/ CO-REQUISITES
BMC253	Strategic Management & Total Quality Management in Tourism and Hospitality Industry	3			3	TH053
FL083	Foreign Language 2	3			3	FL073
HM151L	Ergonomics and Facilities Planning for the Hospitality Industry Lab		1	2	1	HM072, HM071L, HM102, HM101L, co-req HM152
HM152	Ergonomics and Facilities Planning for the Hospitality Industry	2			2	HM072, HM071L, HM102, HM101L, co-req HM151L
HMElec-5	Gastronomy (Food and Culture)	1			1	HMElec-6, HMElec-6L, co-req HMElec-5L
HMElec-5L	Gastronomy (Food and Culture) Lab		2	4	2	HMElec-6, HMElec-6L, co-req HMElec-5
HMResA	Research in the Hospitality 1	3			3	TH023-23, HMElec1, HMELec7, BMC143
TH103	Entrepreneurship in Tourism and Hospitality	3			3	TH053
	Total	15	3	6	18	

FOURTH YEAR, First Semester

COURSE CODE	COURSE TITLE	Lec Units/Hrs	Lab Units	Lab Hrs	TOTAL	PRE-REQUISITES/ CO-REQUISITES
HM113	Supply Chain Management in Hospitality Industry	3			3	BMC143
HM172L	Introduction to Meetings Incentives, Conferences and Events Management (MICE) Lab		2	4	2	BMC143, HM152, HM151L, co-req HM171
HM171	Introduction to Meetings Incentives, Conferences and Events Management (MICE)	1			1	BMC143, HM152, HM151L, co-req HM172L
HMElec-3	Catering Management	1			1	HM071, HM072L, HMElec-6, HMElec-6L, HMElec-7, co-req HMElec-3L
HMElec-3L	Catering Management Lab		2	4	2	HM071, HM072L, HMElec-6, HMElec-6L, HMElec-7, co-req HMElec3
HMResB	Research in the Hospitality 2	3			3	HMResA
TH073	Multicultural Diversity in Workplace for the Tourism Professional	3			3	TH023-23

BACHELOR OF SCIENCE IN HOSPITALITY MANAGEMENT
Curriculum Year 2023-2024

COURSE CODE	COURSE TITLE	Lec Units/Hrs	Lab Units	Lab Hrs	TOTAL	PRE-REQUISITES/ CO-REQUISITES
_____ TH093	Legal Aspects in Tourism and Hospitality	3			3	TH023-23
	Total	14	4	8	18	
FOURTH YEAR, Second Semester						
_____ HM-PRC6-23	Practicum (600 hours)		6		6	TH073, HMElec-3, HMElec-3L, HMResB, HM171, HM172L
	Total		6		6	
	GRAND TOTAL	138	20	28	158	

*Practicum - No simultaneous enrollment is allowed.

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COURSE DESCRIPTION

I. GENERAL EDUCATION COURSES

A. CORE COURSES

GEC003 - Understanding the Self   **3 units**

The course discusses the nature of identity, its factors and forces that affect the development and maintenance of personal identity. It is intended to facilitate the exploration of the issues and concerns regarding self and identity to arrive at a better understanding of one's self. It strives to meet this goal by stressing the integration of the personal with the academic — contextualizing matters discussed in the classroom and in the everyday experiences of students — making for better learning, generating a new appreciation for the learning process, and developing a more critical and reflective attitude while enabling them to manage and improve their selves to attain a better quality of life.

This also includes mandatory topics on Family Planning and Population Education. *Pre-req: None; Co-req: None*

GEC013 - Science, Technology, and Society   **3 units**

The course deals with interactions between science and technology and social cultural, political, and economic contexts, which shape and are shaped by them.
The interdisciplinary course engages students to confront the realities brought about by science and technology in society. Such realities pervade the personal, the public, and the global aspects of our living and are integral to human development. Scientific knowledge and technological development happen in the context of society with all its socio-political, cultural, economic, and philosophical underpinnings at play. This course seeks to instill reflective knowledge in the students that they are able to live the good life and display ethical decision making in the face of scientific and technological advancement.

This also includes discussion of climate change and environmental awareness as well as the implementation of the different environmental protection laws. *Pre-req: None; Co-req: None*

GEC023 - Mga Babasahin Hinggil sa Kasaysayan ng Pilipinas   **3 units**

Ang kursong ito ay tumatalakay sa mga piling primaryang sanggunian ukol sa iba't ibang yugto ng kasaysayan ng Pilipinas, pagsusuri at interpretasyon. Isasama din ang pagtalakay sa konstitusyon ng Pilipinas simula sa taong 1899 hanggang sa taong 1987. Ganun din ang pagtalakay sa repormang agraryo. Gayundin ang pagtalakay sa pagbubuwis bilang instrumento ng pamahalaan. Ito ay may kaugnayan sa tibay ng pagbubuwis bilang isa sa tatlong kapangyarihan ng pamahalaan na nakasaad sa Saligang Batas taong 1987. *Pre-req: None; Co-req: None*

GEC033 - Mathematics in the Modern World   **3 units**

The course discusses the nature of Mathematics, appreciation of its practical, intellectual, and aesthetic dimensions, and application of mathematical tools in daily life. *Pre-req: None; Co-req: None*

GEC043 - The Contemporary World
3 units

The course discusses globalization and its impact on individuals, communities and nations, challenges and responses. It introduces students to the contemporary world by examining the multifaceted phenomenon of globalization. Using the various disciplines of the social sciences, it examines the economic, social, political, technological, and other transformations that have created an increasing awareness of the interconnectedness of people and places around the globe. It provides an overview of the various debates in global governance, development, and sustainability. Beyond exposing the student to the world outside the Philippines, it seeks to inculcate a sense of global citizenship and global ethical responsibility.

This also includes mandatory topics on population education in the context of population and demography.
Pre-req: None; Co-req: None

GEC053 - Art Appreciation
3 units

The course discusses the nature, function and appreciation of the arts in contemporary society. It intends to develop students' ability to appreciate, analyze, and critique works of art. Through interdisciplinary and multimodal approaches, this course equips students with a broad knowledge of the practical, historical, philosophical, and social relevance of the arts. This will hone their ability to articulate their understanding of the arts. It will also develop students' competency in researching and curating arts as well as conceptualizing, mounting, and evaluating art productions. The course aims to develop students' genuine appreciation for Philippine arts by providing them opportunities to explore the diversity and richness and their rootedness in Filipino culture. *Pre-req: None; Co-req: None*

GEC063 - Purposive Communication
3 units

The course discusses writing, speaking and presenting to different audiences and for various purposes. It develops students' communicative competence and enhances their cultural and intercultural awareness through multimodal tasks that provide them opportunities for communicating effectively and appropriately to a multicultural audience in a local or global context. It equips students with tools for critical evaluation of a variety of texts and focuses on the power of language and the impact of images to emphasize the importance of conveying messages responsibly. *Pre-req: None; Co-req: None*

GEC073 – Ethics
3 units

This course covers the context and tenets of ethical behavior in modern society including how individuals and communities interact with the environment and other common resources. It helps one to enhance their grasp of ethics and moral reasoning through the study of numerous theoretical viewpoints and moral experiences that make up so much of the core of daily life. By the end of the course, students should be able to articulate why and how people are seen as moral beings existing in a moral universe with a responsibility to protect themselves, one another, and the environment for everyone. *Pre-req: None; Co-req: None*

B. GENERAL EDUCATION ELECTIVE COURSES

GECELEC1 - Living in the IT Era   **3 units**
This general education elective course discusses how information technology shaped that way of life in the modern era. It discusses the science, culture and ethics information technology as well as how it affects contemporary life and interpersonal interactions and the way it may be used to promote one's social, professional, and personal goals. *Pre-req: None; Co-req: None*

GECELEC2 - The Entrepreneurial Mind   **3 units**
This general education elective course focuses on the nature and fundamentals of entrepreneurship as well as its societal responsibilities and repercussions. It is designed to assist students comprehend the business environment and encourage individuals adopt and innovative mindset. *Pre-req: None; Co-req: None*

GECELEC3 - Philippine Popular Culture   **3 units**
This general education elective course focuses on the emerging potential and expectation of mass audiences, markets and mass media, as well as their social, economic, and political settings, in the field of art, music, and literature. By the completion of the course, students should be able to demonstrate their appreciation of traditional and modern cultural expressions of as well as identify, analyze and develop trends in Philippine culture that have been inspired by various internal and external influences. *Pre-req: None; Co-req: None*

C. CHED MANDATORY COURSES

RZL023 - Buhay at Mga Akda ni Rizal   **3 units**
Ito'y isang pag-aaral sa buhay at gawa ni Gat. Jose Rizal at ang kaugnayan at kahalagahan sa nilalaman ng pangkasaysayang pagsulong ng lipunang Pilipino. Gamit ang istratehiyang 'Dambana" kung saan ang mag-aaral ay maglalaan ng panahon sa Bahay-Rizal sa Calamba, ang mag-aaral ay magiging kabahagi ng Rizal Shrine staff sa edukasyong pangkasaysayan ng mga panauhin sa Bahay-Rizal. *Pre-req: None; Co-req: None*

D. INSTITUTIONAL MANDATED COURSES

LQEC23-013 - Letran Quality Enrichment Course I (Letran Calamba Identity and 21st Century Learning Skills)   **3 units**
LQEC 1 is an enhancement course that is designed to introduce the identity of Colegio de San Juan de Letran Calamba including its history, Dominican spirituality, mission, vision, quality objectives, policies , processes and services. It also introduces the "Four Cs" of 21st Century Learning: Critical Thinking, Creativity, Collaboration and Communication that aims to enhance students' knowledge and awareness of the essential communication concepts and establish deep comprehension of the processes in a creative manner.
Furthermore, it helps the learners to formulate logical and well-thought-out reasoned judgments and promote active engagement with others to achieve a common goal. Pre-req: None; Co-req: None

LQEC23-023 - Letran Quality Enrichment Course II (21st Century Literacy Skills & Life Skills and Sustainability) 3 units
LQEC 2 is an enhancement course that is designed to provide basic understanding about leadership, flexibility, initiative, social skills and productivity. It also introduces digital literacy which focuses on fundamental understanding of media, technology, and information as tools for communication and the advancement of people and communities.
Moreover, the course also introduces the concept of Environment, Social, and Governance (ESG) which determines an organization's commitment to sustainability. All of these are necessary to help the learners become competitively employable in the future of work. *Pre-req: LQEC23-013; Co-req: None*

RELED053 - The Catholic Christian Faith 3 units
This course deals with the basic Catholic Christian Doctrine. It highlights the 12 articles of faith in the Apostles Creed, as well as the Sacred Scripture. Thus it guides the students to a life of truth, fidelity and worship to God. *Pre-req: None; Co-req: None*

RELED063 - Contemporary Issues in Christian Marriage 3 units
Contemporary Issues in Christian Marriage is a three unit academic subject. The emphasis of the course is on Marriage and Family presented as a vocation and a sacrament. The study prepares the students for the reception of the sacrament and achievement of a better outlook on the realities and complexities of the married state and family life. *Pre-req: RELED053; Co-req: None*

RELED073 - Contemporary Issues About Church and Human Society with Immersion 3 units
Contemporary Issues About Church and Human Society with Immersion is a three unit academic subject. This course studies the seven themes of the social teachings of the Catholic Church. It also tackles contemporary social issues which hamper the development of our country. An integral part of the course is Makipamuhay, a learning strategy that allows students to experience direct contact with the oppressed in society specifically the rural poor and leads them to develop personal as well as communal witnessing to authentic Christian faith. *Pre-req: RELED053; Co-req: None*

RELED083 - Christian Ethics 3 units
This course presents the foundations and fundamentals of Christian Ethics and their application to issues and concerns related to the Ten Commandments. *Pre-req: RELED053; Co-req: None*

E. PHYSICAL EDUCATION COURSES

PATHFIT1002 - Movement Competency Training 2 units
This course provides training in different movement and core engagement in conjunction with principles of healthy and physical active life. Students will be able to adopt and transfer the movement competency in different contexts. Pre-req: None; Co-req: None

PATHFIT2022 - Exercise-Based Fitness   2 units
This course provides experiences in core stability, strength, and mobility training. It includes goal setting exercise progression and regression and periodic assessment for the development of various fitness component. *Pre-req: PATHFIT1002; Co-req: None*

PATHFIT3032 - Individual/Dual Sports   2 units
This course puts emphasis on gaining basic knowledge of individual/dual sports, fitness and lifetime activities. It also includes different kinds of individual/dual sports. Students will learn the skills and game strategies for each sport as well as their historical background and terminology. Activities promote participation in physical activity to achieve good health and wellness. *Pre-req: PATHFIT1002, PATHFIT2022; Co-req: None*

PATHFIT4042 - Contemporary Dance   2 units
This course provides the students the foundations of contemporary dance technique and execution. It focuses on various movement concepts at each level, particularly designed solos, and the integration of organized improvisation to provide students, the opportunity to explore and come up with their own movement language. It encourages creativity by fusing elements of jazz, modern dance, lyrical dance, classical ballet, and other disciplines. *Pre-req: PATHFIT1002, PATHFIT2022; Co-req: None*

F. NATIONAL SERVICE TRAINING PROGRAM

NSTP1-18 - National Service Training Program 1   3 units
The National Service Training Program 1 is a curricular offering consisting of lectures and trainings on citizenship, values education, environment and drug education, disaster management, transformational leadership, dimensions of development and literacy and numeracy skills aimed to empower the youth as potential community leaders toward national development. *Pre-req: None; Co-req: None*

NSTP2-18 - National Service Training Program 2   3 units
The National Service Training Program 2 is a sequel to NSTP1. This course is designed to equip the students with the fundamentals of project identifications, planning implementation and evaluation which include but is not limited to lecture and training on social mobilization, community development, and community service. The students are required to undergo the process of community immersion in pursuit of applying the concepts learned in contributing to the general welfare of in the Colegio's partner communities. *Pre-req: NSTP1-18; Co-req: None*

II. TOURISM AND HOSPITALITY MANAGEMENT PROGRAM

A. BUSINESS AND MANAGEMENT EDUCATION COURSES

BMC143 - Operations Management in Tourism and Hospitality Industry　　　**3 units**
This course tackles the nature, scope, functions and importance of production and operations management in tourism and hospitality business. It includes discussions on productivity, competitiveness and strategy, forecasting, production system design, process selection and capacity planning, facilities layout, design of work systems, quality, scheduling and just-in-time manufacturing systems. Cases will also be used to illustrate and apply the basic production and operations concepts and tools commonly used in the tourism and hospitality business firms. *Pre-req: TH053: Co-req: None*

BMC253 - Strategic Management & Total Quality Management in Tourism and Hospitality Industry
　　　3 units
This course aims to acquaint students with the ongoing process of developing and positioning a tourism and hospitality establishment for competitive advantage and its changing business environment. It focuses on the strategy and formulation and strategic planning using an integrative approach which covers the major functional areas of management in consideration with continual improvement. *Pre-req: TH053; Co-req: None*

B. TOURISM AND HOSPITALITY COURSES

TH003 - Macro Perspective of Tourism and Hospitality　　　**3 units**
This course is designed to give a whole and clear overview of Tourism and Hospitality as an ecosystem and goes beyond the usual closed-concept of tourism. It introduces the concepts and terms that are common throughout the different sectors. It also intends to develop, update and maintain local knowledge as well as tourism industry knowledge. It shows the structures and scope of tourism as well as the impact of Tourism as an industry in relation to the world economy and society. It also illustrates the effect of the convergence of tourism with the other local industries and let the students appreciate its multiplier effect in various fronts. It discusses the major factors that influence the history and future of tourism in the world and in the Philippines. It also introduces the sustainable goals of tourism and discusses, among others, how to develop protective environments for children in tourism destinations; to observe and perform risk mitigation activities; etc. the students will also learn to appreciate the key global organizations and the roles they play in influencing and monitoring tourism trends. *Pre-req: None; Co-req: None*

TH013 - Micro Perspective of Tourism and Hospitality　　　**3 units**
This course will cover the workings, operations and integrative activities of major stakeholders in the Tourism and Hospitality Industry. The student will also gain knowledge on managing and marketing a service-oriented business organization. Apart from the scope and structure of travel organizations, it provides an in-depth study of the nature and distinctive characteristics of each sector of the entire tourism industry, focusing on the management, organization and planning of specific business strategies for the various entities in the local

setting. This will also involve the analysis of the possible impact of external factors and trends on the different on the different tourism industry sectors and specific types of businesses. It will also look into client profiling such as travels and influences as it relates to aligning strategic and tactical solutions to the business. The course also identifies the employment opportunities available in each sector and the corresponding qualifications for the jobs. *Pre-req: TH003; Co-req: None*

TH023-23 - Professional Development and Applied Ethics in Tourism and Hospitality Industry 3 units
This course describe the skills, knowledge and performance outcomes required to develop the ability of students to become professionals in their field by understanding the ideas of improving one's personality and ways on how they are going to be valued in the business industry by means of presenting their ideas like company meetings, professional networking, interviews and through proposals of services considering the proper collaboration to their associates and portraying professional business ethics. It also teaches writing skills and emphasize in verbal communication and preparation of plans that requires them to research career options and company potentiality and stability to develop a strong and effective career pathway.
Pre-req: TH053; Co-req: None

TH033 - Risk Management as Applied to Safety, Security, and Sanitation   **3 units**
The student will develop knowledge, skills and values on the basic principle of personal hygiene, food safety and sanitation as applied in tourism and hospitality industry. Topics include the following: compliance with workplace hygiene procedures, Establishment and maintenance of a safe and secure workplace, implementation of occupational health and safety procedures and performing basic First Aid procedures. *Pre-req: None: Co-req: None*

TH053 – Quality Service Management in Tourism and Hospitality   **3 units**
This course aims to enable the students to recognize and assess quality management processes in a hospitality and tourism related organization and to evaluate departmental processes. Topics include concepts and terminologies of TQM: definition, common element and terminology, vision and reality – bridging the gap; constructive and critical and personal reflection; proposed quality, self-assessment and peers assessment; seeking practical feedback for supervisors and continuing improvement, developing a personal management philosophy and personal development plan. *Pre-req: TH013; Co-req: None*

TH073 - Multicultural Diversity in Workplace in Workplace for the Tourism Professional   **3 units**
This course describes the skills, knowledge and performance outcomes required to manage multicultural diversity in workplace that covers organization's diversity policy, encouraging diversity within work teams and upholding the benefits of diverse workplace. It should also develop the ability to communicate with people from a range of social and cultural groups with respect and sensitivity, and to address cross – cultural misunderstanding if it arises. The end goal is for the student to be equipped with social awareness and diverse understanding when serving customers and working with colleagues. *Pre-req: TH023-23 for BSHM, TH023-23, TM083F for BSTM; Co-req: None*

TH083 - Philippine Culture and Tourism Geography   3 units

This course presents comprehensive coverage of the major tourist destinations in the Philippines. Major discussions will be on political structures and subdivisions, geographical characteristics, major attractions, gastronomy, culture and traditions of the various regions of the country leading to the realization of potentials of the Tourism Industry of the Philippines. Students will also have a comprehensive knowledge about the mechanism, logistics, operations and management of the tourism network system in the Philippines with its inherent physical and cultural resources as seen in the various provinces in the country. *Pre-req: TH143 for BSHM and TMElec-4 for BSTM; Co-req: None*

TH093 - Legal Aspects in Tourism and Hospitality   3 units

The tourism and hospitality industry operates within a comprehensive and domestic, and international, legal and regulatory framework. This course examines this framework and covers the key principles of law applicable to hospitality, tourism and related industries. Various legislation on business organization and several international law issues such as consumer protection, product and service liability, employment and law access to the natural environment will be covered.

Topics include: national and international regulation of travel and hospitality industry; consumer contracts law; the law of carriers and inns; the duties of travel operators and agents; travel insurance law; the law of bailment; the responsibilities of travel agents and tour operators; hotel management law; liquor licensing law; catering law; gaming law; marketing law; consumer rights and complaints; the law regulating payment (including credit card payments); the finance of carriers and inns; criminal and civil liability of people working in the travel and tourism industry.

This course also examines the law regulating the issuance of visa and travel documentation, and consider the liability of the operators, agents, carriers, and government instrumentalities in relation to health and safety issues (including acts of terrorism).
Pre-req: TH023-23; Co-req: None

TH103 - Entrepreneurship in Tourism and Hospitality   3 units

This course describes the skills, knowledge and performance outcomes required to plan and develop feasible Business Plan by understanding the nature and scope of entrepreneurship, scanning the market of potential entrepreneurial potential venture opportunities, and identifying and evaluating the methods of venturing into business including but not limited to starting one's own business, buying existing businesses and the process of franchising. It also emphasizes on assessing the possible characteristics and mindset of entrepreneurs, analyzing typical entrepreneurial venture challenges, errors and rewards, identifying effective strategic management, developing product and service innovations and introducing the concepts of environmentally sustainable practices, social entrepreneurship and intellectual property management. *Pre-req: TH053; Co-req: None*

TH143 - Tourism and Hospitality Marketing   3 units

This course will equipped students with the necessary skills to develop actual marketing campaigns for a business within the tourism and hospitality industry. Emphasis is on the analysis of the market, its competition and its product; preparation of financial budget and the development of a short-term and long-range strategies to achieve desired profit through effective advertising, sales and an effective public relations plan. *Pre-req: TH013; Co-req: None*

III. PROFESSIONAL COURSES

A. HOSPITALITY MANAGEMENT PROFESSIONAL COURSES

HM061 - Kitchen Essential and Basic Food Preparation   1 unit

The student will learn theoretical knowledge and demonstrate practical skills in basic culinary tasks, basic food preparation and food presentation in a commercial establishment. Topic will include the following: Application of basic techniques of commercial cookery; Application of safety standard procedures for handling foodstuffs; Clean and maintain kitchen equipment and utensils; Organize and prepare food products and meals; Prepare and store food in a safe and hygienic manner; Receive and securely store in-coming goods; Establish and maintain quality control in food production; Identify, prepare and portion various meats; Prepare appetizers and salads; Prepare soups, stock and sauces; Prepare vegetables, eggs and farinaceous dishes; Present and display food products. *Pre-req: TH033; Co-req: HM062L*

HM062L - Kitchen Essential and Basic Food Preparation Lab   2 units

This course provides the opportunity to apply the theoretical knowledge into practices commonly found in an operational environment. This is the practical application of knowledge learned about basic techniques of commercial cookery, basic food preparations and food presentation. *Pre-req: TH033; Co-req: HM061*

HM072 - Fundamentals in Food Service Operation   2 units

The student will learn the necessary knowledge, develop the various skills and cultivate the proper attitudes needed for the delivery of quality service of food and beverage operations in hotel and restaurants. Topics include the following; Clean and tidy bar and food service areas; Develop and maintain food and beverage product knowledge; Manage the responsible service of alcohol; Prepare and serve cocktails; Prepare and serve non-alcoholic beverages; Provide a link between kitchen and service area; Provide advice to patrons on food and beverage services; Provide food and beverage services; Provide room service; Provide silver service; Take food orders and provide courteous table service; Manage intoxicated person. *Pre-req: HM061, HM062L; Co-req: HM071L*

HM071L - Fundamentals in Food Service Operation Lab   1 unit

This course is the laboratory component of HM072 (Fundamentals in Food Service Operation). It provides opportunity to learn the skills that is needed in the food service operation while developing the required attitude for such skill. Laboratory work will include preparation of alcoholic and non-alcoholic drinks and demonstration of different food and beverage services, including proper guest relation. *Pre-req: HM061, HM062L; Co-req: HM072*

HM102 - Fundamentals in Lodging Operations   2 units

This course describes the skills, knowledge and performance outcomes required to explore and analyze the management and practices of lodging operations and related sales activities in the major and support departments. It will also expose the students on the unique aspect of managing a service-based lodging establishment delivered by diverse employees and understanding of the business and financial operations of the lodging firm. The course introduces the housekeeping department of a hotel and lodging organization: its organizational structures; roles and responsibilities; function of the department; equipment and tools for

housekeeping operations including linen, uniform and laundry service; general maintenance and decoration of the hotel; safety and sanitation in housekeeping operations; management of operations and record-keeping; precautionary procedures; guest safety and hotel assets. *Pre-req: TH013; Co-req: HM101L*

HM101L - Fundamentals in Lodging Operations Lab   1 unit
This course is the laboratory component of HM102 (Fundamentals in Lodging Operations). Focus is given on skills required for housekeeping operations. *Pre-req: TH013; Co-req: HM102*

HM113 - Supply Chain Management in Hospitality Industry   3 units
This course describes the skills, knowledge and performance outcomes required to understanding the basic concepts on managing the complete movement of products or services in a supply chain from the suppliers to the customers. It also emphasizes on identifying the effects of current and future trends in supply chain management, and on assessing the processes and performances in a supply chain to optimize processes into a seamless, innovative and most cost-effective way to help companies build a competitive edge. *Pre-req: BMC143; Co-req: None*

HM132-23 - Applied Business Tools and Technologies For Hospitality Management   2 units
This course identifies common tools, technology and techniques used in the Tourism and Hospitality industry. It includes an overview of the applications or systems composed of technical processes, methods, software and hardware that have evolved and streamlined certain functions in the workplace. These applications and systems include those used in (1) an organization's internal functions, (2) business-to-business operations (including operations with suppliers) and (3) business-to consumer transactions. The goal is to expose students to different applications so he/she can identify, learn, analyze and understand available devices solutions, from which they can select the one/s that is most appropriate for the business function, Topics covered: how to utilize information technology application; how to use various communication channels in dealing with guests and colleagues; how to access and retrieve electronic-based data; how to perform administrative and clerical procedures; how to receive and process reservations; how to source and provides destinations information and advice; how to produce applicable travel documentation, etc. The student will also learn to appreciate the impact of technological innovations to the economy, the industry, the organization's business model and to specific functions/operations of the organization. This will also ensure that the students will also know the value of including tools and technology in its business strategy. *Pre-req: TH053; Co-req: HM131L-23*

HM131L-23 - Applied Business Tools and Technologies for Hospitality Management Lab   1 unit
This course is the laboratory component of HM132 (Applied Business Tools and Technologies for Tourism). *Pre-req: TH053; Co-req: HM132-23*

HM152 - Ergonomics and Facilities Planning for the Hospitality Industry   2 units
This course will develop knowledge, skills and attitudes in ensuring the work environment of the organization fits the industry professional. Topics include:
- Planning and designing workstations to create efficient and effective workplaces.
- Selecting workstation furnishings to provide flexibility and adaptability for workers.
- Designing lighting for proper illumination on work areas.
- Creating work areas where noise is controlled for normal operation to be done in the work station.

Pre-req: HM072, HM071L, HM102, HM101L; Co-req: HM151L

HM151L - Ergonomics and Facilities Planning for the Hospitality Industry Lab   1 unit
This course is the laboratory component of HM152 (Ergonomics and Facilities Planning for the Hospitality Industry). The terminal course requirement shall be a Floor Plan and Miniature Model of a food production or food and beverage service area of a restaurant/hotel/resort. *Pre-req: HM072, HM071L, HM102, HM101L; Co-req: HM152*

HM171 - Introduction to Meetings Incentives, Conferences and Events Management (MICE)   2 units
This course examines the principles of conceptualizing, planning, managing, and evaluating events, conferences, meetings, festivals and other such special activities. Topics include the significance of conventions and events in tourism. Lessons include discussions on event conceptualization, event design, project/event management, methods of monitoring and evaluation, physical requirements, organizing, promotions, sponsorships and handling the financial aspects of such tasks. This will give the students the skills and knowledge to develop business strategies to get MICE business and retain the clients, as well as to identify, understand and overcome the intricate challenges of collective supplier management and engagement. This is an integration course that applies all the principles of management and foundation tourism and hospitality courses.. *Pre-req: B BMC143, HM152, HM151L; Co-req: HM172L*

HM172L - Introduction to Meetings Incentives, Conferences and Events Management (MICE) Lab
2 units
This course is the laboratory component of HM172 (Introduction to Meeting Incentives, Conferences and Events Management (MICE) as Applied to Hospitality). The terminal course requirement shall be an actual event execution related to tourism and hospitality industry.. *Pre-req: BMC143, HM152, HM151L; Co-req: HM171*

HMElec-1 - Front Office Operation   3 units
This course is designed to provide students with the knowledge, skills and attitudes to perform front office and reception duties and be qualified as a Front Office Attendant in any lodging establishment. Furthermore, it is a detailed study of the general management and standard operating procedure of a hotel's/resort's front office with special focus on accommodation establishments of international standards. The course includes bell service, reception/information, reservation, cashiering, handling of telephone exchanges and business centers. *Pre-req: TH003; Co-req: None*

HMElec-3 - Catering Management   1 unit
This course involves the planning and organization of food and beverage services for various types of events. The course will also provide students with the skills and knowledge required to analyze, interpret and manage operations in a catering business, taking into consideration food and beverage control system. *Pre-req: HM071, HM072L, HMElec-6, HMElec-6L, HMElec-7; Co-req: HMElec-3L*

HMElec-3L - Catering Management Lab   2 units
This course is the laboratory component of HMElec-3 (Catering Management). The student will have an opportunity to practice the skills learned in food and beverage preparation, production, and service based on the highest quality of standard. *Pre-req: HM071, HM072L, HMElec-6, HMElec-6L, HMElec-7; Co-req: HMElec3*

HMElec-5 - Gastronomy (Food and Culture) — 1 unit

This course provides theoretical and applied knowledge on the general perspective of common processes from human forms of food substance, food production, the creation of culinary techniques, beverage production, the use and making of tools, and the most prominent historical development in traditional gastronomy. Additionally, a comparative analysis between gastronomic cultures is proposed, highlighting the contributions and uniqueness of the cuisine according to their regions. The course sets a benchmark in the world of gastronomy as an integral part of culture in a given human social structure and social-historical approach. *Pre-req: HMElec-6, HMElec-6L; Co-req: HMElec-5L*

HMElec-5L - Gastronomy (Food and Culture) Lab — 2 units

This course is the laboratory component of HMElec-5 (Gastronomy-Food and Culture). This course also provides students the opportunity to prepare traditional regional Cuisine both in Asia and Western world, with emphasis to their techniques, ingredients, spices and influences. Timing and organizational skills are emphasized. *Pre-req: HMElec-6, HMElec-6L; Co-req: HMElec-5*

HMElec-6- Bread and Pastry — 2 units

This course is designed to educate students in the art of Baking and Pastry Arts. Students will learn the basics of mixing, shaping and baking for several baked goods including quick breads, cakes, pastry doughs, mousses, sauces, glazes, cookies, candies and confections. Plated desserts, international baked foods, chocolate work and decorated cakes are highlighted. In addition, students will be introduced to decorating techniques. Students will learn in a well-equipped, modern kitchen and also prepare food for school functions and community service events. *Pre-req: HM061, HM062L; Co-req: HMElec-6L*

HMElec-6L - Bread and Pastry Lab — 1 unit

This course is designed to educate students in the art of Baking and Pastry Arts. Students will learn the basics of mixing, shaping and baking for several baked goods including quick breads, cakes, pastry doughs, mousses, sauces, glazes, cookies, candies and confections. Plated desserts, international baked foods, chocolate work and decorated cakes are highlighted. In addition, students will be introduced to decorating techniques. Students will learn in a well-equipped, modern kitchen and also prepare food for school functions and community service events. *Pre-req: HM061, HM062L; Co-req: HMElec-6*

HMElec-7- Food and Beverage Cost Control — 3 units

This course will enable the students to develop knowledge, skills, attitude in food and beverage control systems and to efficiently and effectively plan menus at profitable prices, taking into consideration constraints, preparation and other variables affecting food and beverage outlets.
Pre-req: HM072, HM071L; Co-req: None

FL073 - Foreign Language 1 — 3 units

This course aims to train students to develop basic conversational skills using foreign language.
Pre-req: None; Co-req: None

FL083 – Foreign Language 2 — 3 units

 This course aims to train students to develop intermediate conversational skills using a foreign language. Student should be able to understand technical jargon used in the tourism industry. Likewise, this is also designed to develop listening, reading, and writing skills in foreign language. *Pre-req: FL073; Co-req: None*

B. PRACTICUM / WORK LEARNING

HMResA - Research in the Hospitality 1   **3 units**
This course is designed to provide students with the principles and techniques of writing a research project. The end result shall be a research proposal on food service facilities design and layout or a feasibility study on a business venture in hospitality industry. *Pre-req: TH023-23, HMElec1, HMELec7, BMC143; Co-req: None*

HMResB - Research in the Hospitality 2   **3 units**
This course pertains to the preparation and presentation of the terminal paper as proposed in HM-RESA (Research in Hospitality 1). *Pre-req: HMResA; Co-req: None*

HM-PRC6-23 - Practicum (600 hours)   **6 units**
Practicum provides opportunities to apply classroom learning to actual work. In this respect, the student shall undergo job exposure in all areas of the hospitality operations. The student will be evaluated by the supervisor/manager he/she is directly responsible. At the end of the course, he/she should submit a training report, with an emphasis on problem-solving and recommendations for improvement of the company he/she has worked with. *Pre-req: TH073, HMElec-3, HMElec-3L, HMResB, HM171, HM172L; Co-req: None*

PROGRAM DESCRIPTION

The **Bachelor of Science in Tourism Management** is a 4-year degree program engaged in the training and development of essential knowledge and skills on the technical, managerial and administrative functions, as well as the formation of the right values for those involved in the Tourism Industry.

Program Educational Objectives

Three to five years after graduation, the Bachelor of Science in Tourism Management (BSTM) alumni shall:

1. Analyze challenges and respond with creativity and innovation as they manage successfully the daily operations in the workplace;
2. Communicate effectively in a multi-cultural environment;
3. Keep updated through training, graduate studies, professional affiliation, and/or practice;
4. Integrate Christian service and professional ethics in various areas of their career and profession;
5. Assume competent management role in the hospitality business and other related enterprise; and
6. Impart and share expertise to those in the academe and those pursuing continuing professional development.

Program Outcomes and Performance Indicators

Upon completion of Bachelor of Science in Tourism Management (BSTM), the graduate, who is trained in a culture of conscience and excellence with Filipino, Dominican, and Christian in orientation, must be able to:

Program Outcomes	Performance Indicators
1. Articulate and discuss the latest developments in the specific field of practice	• Engage in continual learning in one's specialization
2. Effectively communicate orally and in writing using English, Filipino, mother tongue language, and an appropriate Foreign Language required by the industry	• Express oneself clearly in verbal or written forms the updates in one's career or vocation • Convey positive Filipino values in one's decisions and actions • Defend satisfactorily his/her thesis from a panel of experts • Display proficient conversational skills in Filipino, English and other foreign

	Filipino, English and other foreign languages used in the industry • Display proficient written skills in Filipino, English and other foreign languages used in the industry
3. Work effectively and independently in multi-disciplinary and multi-cultural teams	• Perform well as a team leader or member in any kind of group project or activity • Perform independently and cooperatively to accomplish worthwhile goals
4. Act in recognition of professional, social, and ethical responsibility	• Maintain stature and behavior that uphold the Professional Code of Ethics • Immerse in an actual working environment in industry
5. Preserve and promote Filipino historical and cultural heritage (based on RA No. 7722)	• Demonstrate responsible Filipino citizenship in local, national or international communities
6. Participate in various types of employment, development activities, and public discourses, particularly in response to the needs of the communities one serves	• Plan and take action for the welfare of the community • Continually engage oneself in development projects and activities that address the community needs

7. Manifest strong commitment and conviction to the Christian and Dominican teachings and philosophy in thoughts, words, and deeds	• Observe the Dominican values of study, prayer, community, and service • Uphold ecological consciousness and engage in environmental stewardship • Participate actively in the community's spiritual and social advocacy or extension program
8. Perform the basic functions of management such as planning, organizing, leading, and controlling	• Develop and defend a tourism development plan that incorporate relevant inputs such as laws, market research and feasibility study, product development, among others • Assume leadership role in hospitality related activities
9. Apply the basic concepts that underlie each of the functional areas of business (marketing, finance, human resources management, production and operations management, information technology, and strategic management) and employ these concepts in various business situations	• Apply the concept of management to assess and formulate operational plan • Employ essential strategy-related components and principles for decision making
10. Select the proper decision making tools to critically, analytically and creatively solve problems and drive results	• Apply appropriate quantitative tools to address a business case problem • Suggest sound solution to problems encountered in business operations

11. Apply information and communication technology (ICT) skills as required by the business environment	• Prepare a social media marketing plan • Create business advertisement using technology application
12. Manage conflict in the workplace	• Conduct a planning and problem solving meeting to resolve issues related to a planned business event. • Engage in activities that promote teamwork • Apply business ethics in dealing with guests and co-workers
13. Plan and implement business related activities	• Develop and defend a business plan for restaurant, hotel, or allied ventures incorporating sales and marketing principles and financial analysis • Identify methods, techniques, and devises appropriate in an organization in business implementation and process • Engage in entrepreneurial management
14. Demonstrate corporate and social responsibility	• Propose social responsibility strategies and compliance action plan for a business • Apply appropriate CSR technique in decision making • Participate in a corporate and social responsibility endeavor

15. Exercise high personal, moral, and ethical standards	• Exhibit honesty, fairness, equity, and good faith in dealing with other person
16. Demonstrate knowledge to the tourism industry local tourism products and services	• Identify premier tourist destinations in the country • Provide information on geographical location, cultural features, festivals and other tourist attractions of major local tourist destinations • Identify gastronomical features of each Regions in the Philippines
17. Interpret and apply relevant laws related to the tourism industry	• Source information on compliance and related issues which impact on the tourism industry • Identify legal and ethical issues related to the workplace and to the tourism industry in general
18. Observe and perform risk mitigation activities	• Identify workplace related hazards and risks • Perform work related activities in consideration to established safety and standards
19. Utilize information technology applications for tourism and hospitality	• Apply knowledge in information technology used by hotel and travel industry • Create a marketing tool using information technology •

20. Manage and market a service oriented business organization	• Develop a marketing plan for hospitality and tourism business • Recommend simple business strategies for restaurant and travel businesses
21. Demonstrate administrative and managerial skills in a service oriented business organization	• Use the basic managerial skills in operating a business enterprise • Apply management practices based on the acceptable business standards
22. Prepare and monitor financial transactions and reports	• Identify entries in the financial statement used by business enterprise • Create a business financial statement
23. Perform human capital development functions of a tourism oriented organization	• Exhibit an effective understanding of human behavior in the tourism industry • Apply leadership skills in handling a team
24. Utilize various communication channels proficiently in dealing with guests and colleagues	• Clear and effective writing for different formats and platforms • Effective and responsible use of non-verbal cues, pictures, graphics, and images in oral, written, and online communication
25. Plan, implement, and monitor tours and sales activities	• Create tour packages in consideration with client preferences

	- Perform knowledge in computerized travel reservations - Perform functions of a travel agent - Supervise travel business operations
26. Research, plan, and conduct various tour guiding activities	- Obtain information on new travel trends and integrate to the existing business products and services - Create tour itineraries that will delight client - Maintain contact with travel stakeholders - Supervise tour guiding activity in consideration with risk management
27. Develop appropriate marketing programs and arrange the required travel services	- Develop marketing plan to promote travel related products and services. - Recommend simple business strategies for travel services - Provide correct information to clients on the required travel documents
28. Plan/organize, implement, and evaluate MICE activities	- Apply competencies in conceptualizing an event with consideration to target market, logistics, suppliers and safety and security - Organize an actual MICE activities - Delegate work assignments to team members - Perform a post activity assessment for enhancement

29. Plan, develop, and evaluate tourism sites and attractions	- Identify and access sources for correct information on the local area - Provide accurate local tourism information in response to queries - Identify sources of information on tourism industry statistics and trends - Apply information on legal and ethical issues for the tourism industry - Monitor current issues of concern related to the tourism industry

BACHELOR OF SCIENCE IN TOURISM MANAGEMENT
GENERAL SUMMARY OF COURSES

I. General Education Courses

A. Core Courses — **24**

GEC003	Understanding the Self	3	
GEC013	Science, Technology, and Society	3	
GEC023	Mga Babasahin Hinggil sa Kasaysayan ng Pilipinas	3	
GEC033	Mathematics in the Modern World	3	
GEC043	The Contemporary World	3	
GEC053	Art Appreciation	3	
GEC063	Purposive Communication	3	
GEC073	Ethics	3	

B. CHED Mandated Courses — **26**

a. Rizal Course

RZL023	Buhay at Mga Akda ni Rizal	3

b. Physical Education Courses

PATHFIT1002	Movement Competency Training	2
PATHFIT2022	Exercise Based Fitness Activities	2
PATHFIT3032	Individual/Dual Sports	2
PATHFIT4042	Contemporary Dance	2

c. National Service Training Program

NSTP1-18	National Service Training Program 1	3
NSTP2-18	National Service Training Program 2	3

d. GENED Elective Courses

GECELEC1	Living in the IT Era	3
GECELEC2	The Entrepreneurial Mind	3
GECELEC3	Philippine Pop Culture	3

C. Institutional Mandated Courses — **18**

a. Religious Education Courses

RELED053	The Catholic Christian Faith	3
RELED063	Contemporary Issues in Christian Marriage	3
RELED073	Contemporary Issues About Church and Human Society with Immersion	3
RELED083	Christian Ethics	3

b. Letran Quality Enrichment Courses

LQEC23-013	Letran Quality Enhancement Course I (Letran Calamba Identity and 21st Century Learning Skills)	3
LQEC23-023	Letran Quality Enhancement Course II (21st Century Literacy Skills & Life Skills and Sustainability)	3

II. Business and Management Education Courses — **6**

BMC143	Operations Management in Tourism and Hospitality Industry	3
BMC253	Strategic Management & Total Quality Management in Tourism and Hospitality Industry	3

III. Tourism and Hospitality Core — **30**

TH003	Macro Perspective of Tourism and Hospitality	3
TH013	Micro Perspective of Tourism and Hospitality	3

TH023	Professional Development and Applied Ethics	3
TH033	Risk Management as Applied to Safety, Security, and Sanitation	3
TH053	Quality Service Management in Tourism and Hospitality Industry	3
TH073	Multicultural Diversity in Workplace for the Tourism Professional	3
TH083	Philippine Culture and Tourism Geography	3
TH093	Legal Aspects in Tourism and Hospitality	3
TH103	Entrepreneurship in Tourism and Hospitality	3
TH143	Tourism and Hospitality Marketing	3

IV. Tourism Professional Courses — 33

FL073	Foreign Language 1	3
FL083	Foreign Language 2	3
TM083F	Global Culture and Tourism Geography	3
TM123	Tour and Travel Management	3
TM132	Applied Business Tools and Technologies for Tourism	2
TM131L	Applied Business Tools and Technologies for Tourism Lab	1
TM163B	Transportation Management	3
TM172	Introduction to Meeting Incentives Conferences and Events Management (MICE)	2
TM171L	Introduction to Meeting Incentives Conferences and Events Management (MICE) Lab	1
TM203	Sustainable Tourism	3
TM263	Tourism Policy Planning and Development	3
TMResA	Research in Tourism 1	3
TMResB	Research in Tourism 2	3

V. Professional Elective Courses — 18

TMElec-1	Philippine Gastronomical Tourism	1
TMElec-1L	Philippine Gastronomical Tourism Lab	2
TMElec-4	Tour Guiding	3
TMElec-5	Heritage Tourism	3
TMElec-7	Recreational and Leisure Management	3
TMElec-8	In-flight Services	3
TMElec-9	Medical and Wellness Tourism	3

VI. Practicum/Work Integrated Learning — 6

TM-PRC6-23	Practicum (600 hours)	6

TOTAL UNITS 161

BACHELOR OF SCIENCE IN TOURISM MANAGEMENT
Curriculum Year 2023-2024

COURSE CODE	COURSE TITLE	Lec Units/Hrs	Lab Units	Lab Hrs	TOTAL	PRE-REQUISITES/ CO-REQUISITES
FIRST YEAR, First Semester						
GEC003	Understanding the Self	3			3	
GEC023	Mga Babasahin Hinggil sa Kasaysayan ng Pilipinas	3			3	
GEC033	Mathematics in the Modern World	3			3	
GEC043	The Contemporary World	3			3	
RELED053	The Catholic Christian Faith	3			3	
TH003	Macro Perspective of Tourism and Hospitality	3			3	
TH033	Risk Management as Applied to Safety, Security and Sanitation	3			3	
LQEC23-013	Letran Quality Enrichment Course I (Letran Calamba Identity and 21st Century Learning Skills)	3			3	
	Total	**24**	**0**	**0**	**24**	
FIRST YEAR, Second Semester						
GEC013	Science, Technology, and Society	3			3	
GEC063	Purposive Communication	3			3	
GECELEC1	Living in the IT Era	3			3	
NSTP1-18	National Service Training Program 1	3			3	
PATHFIT1002	Movement Competency Training	2			2	
RELED083	Christian Ethics	3			3	RELED053
TH013	Micro Perspective of Tourism and Hospitality	3			3	TH003
TMElec-1	Philippine Gastronomical Tourism	1			1	TH033, co-req TMElec 1 L
TMElec-1L	Philippine Gastronomical Tourism Laboratory		2	4	2	TH033, co-req TMElec1
LQEC23-023	Letran Quality Enrichment Course II (21st Century Literacy Skills & Life Skills and Sustainability)	3			3	LQEC23-013
	Total	**24**	**2**	**4**	**26**	
SECOND YEAR, First Semester						
GECELEC2	The Entrepreneurial Mind	3			3	
NSTP2-18	National Service Training Program 2	3			3	NSTP1-18
PATHFIT2022	Exercise Based Fitness Activities	2			2	PATHFIT1002
RZL023	Buhay at Gawa ni Rizal	3			3	
TH053	Quality Service Management in Tourism and Hospitality	3			3	TH013
TH143	Tourism and Hospitality Marketing	3			3	TH013
TMElec-4	Tour Guiding	3			3	TMElec-1, TMElec -1L, TH013
	Total	**20**	**0**	**0**	**20**	
SECOND YEAR, Second Semester						
BMC143	Operations Management in Tourism and Hospitality Industry	3			3	TH053
GEC053	Art Appreciation	3			3	
GEC073	Ethics	3			3	

Code	Description					Prerequisites
GECELEC3	Philippine Pop Culture	3			3	
PATHFIT3032	Individual/Dual Sports	2			2	PATHFIT1002, PATHFIT2022
RELED063	Contemporary Issues in Christian Marriage	3			3	RELED053
TH083	Philippines Culture and Tourism Geography	3			3	TMElec-4
TM123	Tour and Travel Management	3			3	TMElec-4, TH143, co-req TM132, TM 131L
TM131L	Applied Business Tools and Technologies for Tourism Lab		1	2	1	TH143, co-req TM132, TM123
TM132	Applied Business Tools and Technologies for Tourism	2			2	TH143, co-req TM131L, TM123
	Total	**25**	**1**	**2**	**26**	

THIRD YEAR, First Semester

Code	Description					Prerequisites
FL073	Foreign Language 1	3			3	co-req TM083F
PATHFIT4042	Contemporary Dance	2			2	PATHFIT1002, PATHFIT2022
RELED073	Contemporary Issues About Church and Human Society with Immersion	3			3	RELED053
TH023-23	Professional Development and Applied Ethics in Tourism and Hospitality Industry	3			3	TH053
TM083F	Global Culture and Tourism Geography	3			3	TH083, co-req FL073
TMElec-5	Heritage Tourism	3			3	TH083
TMElec-8	In-flight Services	3			3	TMElec-4
	Total	**20**	**0**	**0**	**20**	

THIRD YEAR, Second Semester

Code	Description					Prerequisites
BMC253	Strategic Management & Total Quality Management in Tourism and Hospitality Industry	3			3	TH053
FL083	Foreign Language 2	3			3	FL073
TH103	Entrepreneurship in Tourism and Hospitality	3			3	TH053
TM163B	Transportation Management	3			3	BMC143, TM083F
TM203	Sustainable Tourism	3			3	TM083F
TMElec-7	Recreational and Leisure Management	3			3	BMC143
TMResA	Research in Tourism 1	3			3	TM083F
	Total	**21**	**0**	**0**	**21**	

FOURTH YEAR, First Semester

Code	Description					Prerequisites
TH073	Multicultural Diversity in Workplace for the Tourism Professional	3			3	TH023-23, TM083F
TH093	Legal Aspects in Tourism and Hospitality	3			3	TH023-23
TM172L	Introduction to Meetings Incentives, Conferences and Events Management (MICE) Lab		2	4	2	TM083F, TMELEC-5, co-req TM171, TM263
TM171	Introduction to Meetings Incentives, Conferences and Events Management (MICE)	1			1	TM083F, TMELEC-5, co-req TM172L, TM263
TM263	Tourism Policy Planning and Development	3			3	TM163B, TMELEC-5, co-req TM172L, TM171
TMElec-9	Medical and Wellness Tourism	3			3	BMC143, TH093
TMResB	Research in Tourism 2	3			3	TMResA

FOURTH YEAR, Second Semester

Code	Description					Prerequisites
TM-PRC6-23	Practicum (600 hours)		6		6	TH073, TM171, TM172L, TM263, TMResB
	Total		**6**		**6**	
	GRAND TOTAL	**150**	**11**	**10**	**161**	

Practicum - No simultaneous enrollment is allowed.

COURSE DESCRIPTION

I. GENERAL EDUCATION COURSES

A. CORE COURSES

GEC003 - Understanding the Self   3 units
The course discusses the nature of identity, its factors and forces that affect the development and maintenance of personal identity. It is intended to facilitate the exploration of the issues and concerns regarding self and identity to arrive at a better understanding of one's self. It strives to meet this goal by stressing the integration of the personal with the academic — contextualizing matters discussed in the classroom and in the everyday experiences of students — making for better learning, generating a new appreciation for the learning process, and developing a more critical and reflective attitude while enabling them to manage and improve their selves to attain a better quality of life.

This also includes mandatory topics on Family Planning and Population Education. *Pre-req: None; Co-req: None*

GEC013 - Science, Technology, and Society   3 units
The course deals with interactions between science and technology and social cultural, political, and economic contexts, which shape and are shaped by them.
The interdisciplinary course engages students to confront the realities brought about by science and technology in society. Such realities pervade the personal, the public, and the global aspects of our living and are integral to human development. Scientific knowledge and technological development happen in the context of society with all its socio-political, cultural, economic, and philosophical underpinnings at play. This course seeks to instill reflective knowledge in the students that they are able to live the good life and display ethical decision making in the face of scientific and technological advancement.

This also includes discussion of climate change and environmental awareness as well as the implementation of the different environmental protection laws. *Pre-req: None; Co-req: None*

GEC023 - Mga Babasahin Hinggil sa Kasaysayan ng Pilipinas   3 units
Ang kursong ito ay tumatalakay sa mga piling primaryang sanggunian ukol sa iba't ibang yugto ng kasaysayan ng Pilipinas, pagsusuri at interpretasyon. Isasama din ang pagtalakay sa konstitusyon ng Pilipinas simula sa taong 1899 hanggang sa taong 1987. Ganun din ang pagtalakay sa repormang agraryo. Gayundin ang pagtalakay sa pagbubuwis bilang instrumento ng pamahalaan. Ito ay may kaugnayan sa tibay ng pagbubuwis bilang isa sa tatlong kapangyarihan ng pamahalaan na nakasaad sa Saligang Batas taong 1987. *Pre-req: None; Co-req: None*

GEC033 - Mathematics in the Modern World   3 units
The course discusses the nature of Mathematics, appreciation of its practical, intellectual, and aesthetic dimensions, and application of mathematical tools in daily life. *Pre-req: None; Co-req: None*

GEC043 - The Contemporary World
3 units
The course discusses globalization and its impact on individuals, communities and nations, challenges and responses. It introduces students to the contemporary world by examining the multifaceted phenomenon of globalization. Using the various disciplines of the social sciences, it examines the economic, social, political, technological, and other transformations that have created an increasing awareness of the interconnectedness of people and places around the globe. It provides an overview of the various debates in global governance, development, and sustainability. Beyond exposing the student to the world outside the Philippines, it seeks to inculcate a sense of global citizenship and global ethical responsibility.

This also includes mandatory topics on population education in the context of population and demography. *Pre-req: None; Co-req: None*

GEC053 - Art Appreciation
3 units
The course discusses the nature, function and appreciation of the arts in contemporary society. It intends to develop students' ability to appreciate, analyze, and critique works of art. Through interdisciplinary and multimodal approaches, this course equips students with a broad knowledge of the practical, historical, philosophical, and social relevance of the arts. This will hone their ability to articulate their understanding of the arts. It will also develop students' competency in researching and curating arts as well as conceptualizing, mounting, and evaluating art productions. The course aims to develop students' genuine appreciation for Philippine arts by providing them opportunities to explore the diversity and richness and their rootedness in Filipino culture. *Pre-req: None; Co-req: None*

GEC063 - Purposive Communication
3 units
The course discusses writing, speaking and presenting to different audiences and for various purposes. It develops students' communicative competence and enhances their cultural and intercultural awareness through multimodal tasks that provide them opportunities for communicating effectively and appropriately to a multicultural audience in a local or global context. It equips students with tools for critical evaluation of a variety of texts and focuses on the power of language and the impact of images to emphasize the importance of conveying messages responsibly. *Pre-req: None; Co-req: None*

GEC073 – Ethics
3 units
This course covers the context and tenets of ethical behavior in modern society including how individuals and communities interact with the environment and other common resources. It helps one to enhance their grasp of ethics and moral reasoning through the study of numerous theoretical viewpoints and moral experiences that make up so much of the core of daily life. By the end of the course, students should be able to articulate why and how people are seen as moral beings existing in a moral universe with a responsibility to protect themselves, one another, and the environment for everyone. *Pre-req: None; Co-req: None*

B. GENERAL EDUCATION ELECTIVE COURSES

GECELEC1 - Living in the IT Era **3 units**
This general education elective course discusses how information technology shaped that way of life in the modern era. It discusses the science, culture and ethics information technology as well as how it affects contemporary life and interpersonal interactions and the way it may be used to promote one's social, professional, and personal goals. *Pre-req: None; Co-req: None*

GECELEC2 - The Entrepreneurial Mind **3 units**
This general education elective course focuses on the nature and fundamentals of entrepreneurship as well as its societal responsibilities and repercussions. It is designed to assist students comprehend the business environment and encourage individuals adopt and innovative mindset. *Pre-req: None; Co-req: None*

GECELEC3 - Philippine Popular Culture **3 units**
This general education elective course focuses on the emerging potential and expectation of mass audiences, markets and mass media, as well as their social, economic, and political settings, in the field of art, music, and literature. By the completion of the course, students should be able to demonstrate their appreciation of traditional and modern cultural expressions of as well as identify, analyze and develop trends in Philippine culture that have been inspired by various internal and external influences. *Pre-req: None; Co-req: None*

C. CHED MANDATORY COURSES

RZL023 - Buhay at Mga Akda ni Rizal **3 units**
Ito'y isang pag-aaral sa buhay at gawa ni Gat. Jose Rizal at ang kaugnayan at kahalagahan sa nilalaman ng pangkasaysayang pagsulong ng lipunang Pilipino. Gamit ang istratehiyang 'Dambana" kung saan ang mag-aaral ay maglalaan ng panahon sa Bahay-Rizal sa Calamba, ang mag-aaral ay magiging kabahagi ng Rizal Shrine staff sa edukasyong pangkasaysayan ng mga panauhin sa Bahay-Rizal. *Pre-req: None; Co-req: None*

D. INSTITUTIONAL MANDATED COURSES

LQEC23-013 - Letran Quality Enrichment Course I (Letran Calamba Identity and 21st Century Learning Skills) **3 units**
LQEC 1 is an enhancement course that is designed to introduce the identity of Colegio de San Juan de Letran Calamba including its history, Dominican spirituality, mission, vision, quality objectives, policies , processes and services. It also introduces the "Four Cs" of 21st Century Learning: Critical Thinking, Creativity, Collaboration and Communication that aims to enhance students' knowledge and awareness of the essential communication concepts and establish deep comprehension of the processes in a creative manner.

Furthermore, it helps the learners to formulate logical and well-thought-out reasoned judgments and promote active engagement with others to achieve a common goal. Pre-req: None; Co-req: None

LQEC23-023 - Letran Quality Enrichment Course II (21st Century Literacy Skills & Life Skills and Sustainability) 3 units
LQEC 2 is an enhancement course that is designed to provide basic understanding about leadership, flexibility, initiative, social skills and productivity. It also introduces digital literacy which focuses on fundamental understanding of media, technology, and information as tools for communication and the advancement of people and communities.
Moreover, the course also introduces the concept of Environment, Social, and Governance (ESG) which determines an organization's commitment to sustainability. All of these are necessary to help the learners become competitively employable in the future of work. *Pre-req: LQEC23-013; Co-req: None*

RELED053 - The Catholic Christian Faith 3 units
This course deals with the basic Catholic Christian Doctrine. It highlights the 12 articles of faith in the Apostles Creed, as well as the Sacred Scripture. Thus it guides the students to a life of truth, fidelity and worship to God. *Pre-req: None; Co-req: None*

RELED063 - Contemporary Issues in Christian Marriage 3 units
Contemporary Issues in Christian Marriage is a three unit academic subject. The emphasis of the course is on Marriage and Family presented as a vocation and a sacrament. The study prepares the students for the reception of the sacrament and achievement of a better outlook on the realities and complexities of the married state and family life. *Pre-req: RELED053; Co-req: None*

RELED073 - Contemporary Issues About Church and Human Society with Immersion 3 units
Contemporary Issues About Church and Human Society with Immersion is a three unit academic subject. This course studies the seven themes of the social teachings of the Catholic Church. It also tackles contemporary social issues which hamper the development of our country. An integral part of the course is Makipamuhay, a learning strategy that allows students to experience direct contact with the oppressed in society specifically the rural poor and leads them to develop personal as well as communal witnessing to authentic Christian faith. *Pre-req: RELED053; Co-req: None*

RELED083 - Christian Ethics 3 units
This course presents the foundations and fundamentals of Christian Ethics and their application to issues and concerns related to the Ten Commandments. *Pre-req: RELED053; Co-req: None*

E. PHYSICAL EDUCATION COURSES

PATHFIT1002 - Movement Competency Training　　　　　　　　　**2 units**
This course provides training in different movement and core engagement in conjunction with principles of healthy and physical active life. Students will be able to adopt and transfer the movement competency in different contexts. *Pre-req: None; Co-req: None*

PATHFIT2022 - Exercise-Based Fitness　　　　　　　　　**2 units**
This course provides experiences in core stability, strength, and mobility training. It includes goal setting exercise progression and regression and periodic assessment for the development of various fitness component. *Pre-req: PATHFIT1002; Co-req: None*

PATHFIT3032 - Individual/Dual Sports　　　　　　　　　**2 units**
This course puts emphasis on gaining basic knowledge of individual/dual sports, fitness and lifetime activities. It also includes different kinds of individual/dual sports. Students will learn the skills and game strategies for each sport as well as their historical background and terminology. Activities promote participation in physical activity to achieve good health and wellness. *Pre-req: PATHFIT1002, PATHFIT2022; Co-req: None*

PATHFIT4042 - Contemporary Dance　　　　　　　　　**2 units**
This course provides the students the foundations of contemporary dance technique and execution. It focuses on various movement concepts at each level, particularly designed solos, and the integration of organized improvisation to provide students, the opportunity to explore and come up with their own movement language. It encourages creativity by fusing elements of jazz, modern dance, lyrical dance, classical ballet, and other disciplines. *Pre-req: PATHFIT1002, PATHFIT2022; Co-req: None*

F. NATIONAL SERVICE TRAINING PROGRAM

NSTP1-18 - National Service Training Program 1　　　　　　　　　**3 units**
The National Service Training Program 1 is a curricular offering consisting of lectures and trainings on citizenship, values education, environment and drug education, disaster management, transformational leadership, dimensions of development and literacy and numeracy skills aimed to empower the youth as potential community leaders toward national development. *Pre-req: None; Co-req: None*

NSTP2-18 - National Service Training Program 2　　　　　　　　　**3 units**
The National Service Training Program 2 is a sequel to NSTP1. This course is designed to equip the students with the fundamentals of project identifications, planning implementation and evaluation which include but is not limited to lecture and training on social mobilization, community development, and community service. The students are required to undergo the process of community immersion in pursuit of applying the concepts learned in contributing to the general welfare of in the Colegio's partner communities. *Pre-req: NSTP1-18; Co-req: None*

II. TOURISM AND HOSPITALITY MANAGEMENT PROGRAM

A. BUSINESS AND MANAGEMENT EDUCATION COURSES

BMC143 - Operations Management in Tourism and Hospitality Industry   **3 units**
This course tackles the nature, scope, functions and importance of production and operations management in tourism and hospitality business. It includes discussions on productivity, competitiveness and strategy, forecasting, production system design, process selection and capacity planning, facilities layout, design of work systems, quality, scheduling and just-in-time manufacturing systems. Cases will also be used to illustrate and apply the basic production and operations concepts and tools commonly used in the tourism and hospitality business firms. *Pre-req: TH053: Co-req: None*

BMC253 - Strategic Management & Total Quality Management in Tourism and Hospitality Industry
3 units
This course aims to acquaint students with the ongoing process of developing and positioning a tourism and hospitality establishment for competitive advantage and its changing business environment. It focuses on the strategy and formulation and strategic planning using an integrative approach which covers the major functional areas of management in consideration with continual improvement. *Pre-req: TH053; Co-req: None*

B. TOURISM AND HOSPITALITY COURSES

TH003 - Macro Perspective of Tourism and Hospitality   **3 units**
This course is designed to give a whole and clear overview of Tourism and Hospitality as an ecosystem and goes beyond the usual closed-concept of tourism. It introduces the concepts and terms that are common throughout the different sectors. It also intends to develop, update and maintain local knowledge as well as tourism industry knowledge. It shows the structures and scope of tourism as well as the impact of Tourism as an industry in relation to the world economy and society. It also illustrates the effect of the convergence of tourism with the other local industries and let the students appreciate its multiplier effect in various fronts. It discusses the major factors that influence the history and future of tourism in the world and in the Philippines. It also introduces the sustainable goals of tourism and discusses, among others, how to develop protective environments for children in tourism destinations; to observe and perform risk mitigation activities; etc. the students will also learn to appreciate the key global organizations and the roles they play in influencing and monitoring tourism trends. *Pre-req: None; Co-req: None*

TH013 - Micro Perspective of Tourism and Hospitality   **3 units**
This course will cover the workings, operations and integrative activities of major stakeholders in the Tourism and Hospitality Industry. The student will also gain knowledge on managing and marketing a service-oriented business organization. Apart from the scope and structure of travel organizations, it provides an in-depth study of the nature and distinctive characteristics of each sector of the entire tourism industry, focusing on the management, organization and planning of specific business strategies for the various entities in the local setting. This will also involve the analysis of the possible impact of external factors and trends on the different on the different tourism industry sectors and specific types of businesses. It will also look into client profiling

such as travels and influences as it relates to aligning strategic and tactical solutions to the business. The course also identifies the employment opportunities available in each sector and the corresponding qualifications for the jobs. *Pre-req: TH003; Co-req: None*

TH023-23 - Professional Development and Applied Ethics in Tourism and Hospitality Industry   3 units
This course describe the skills, knowledge and performance outcomes required to develop the ability of students to become professionals in their field by understanding the ideas of improving one's personality and ways on how they are going to be valued in the business industry by means of presenting their ideas like company meetings, professional networking, interviews and through proposals of services considering the proper collaboration to their associates and portraying professional business ethics. It also teaches writing skills and emphasize in verbal communication and preparation of plans that requires them to research career options and company potentiality and stability to develop a strong and effective career pathway.
Pre-req: TH053; Co-req: None

TH033 - Risk Management as Applied to Safety, Security, and Sanitation   3 units
The student will develop knowledge, skills and values on the basic principle of personal hygiene, food safety and sanitation as applied in tourism and hospitality industry. Topics include the following: compliance with workplace hygiene procedures, Establishment and maintenance of a safe and secure workplace, implementation of occupational health and safety procedures and performing basic First Aid procedures.
Pre-req: None: Co-req: None

TH053 – Quality Service Management in Tourism and Hospitality   3 units
This course aims to enable the students to recognize and assess quality management processes in a hospitality and tourism related organization and to evaluate departmental processes. Topics include concepts and terminologies of TQM: definition, common element and terminology, vision and reality – bridging the gap; constructive and critical and personal reflection; proposed quality, self-assessment and peers assessment; seeking practical feedback for supervisors and continuing improvement, developing a personal management philosophy and personal development plan. *Pre-req: TH013; Co-req: None*

TH073 - Multicultural Diversity in Workplace in Workplace for the Tourism Professional   3 units
This course describes the skills, knowledge and performance outcomes required to manage multicultural diversity in workplace that covers organization's diversity policy, encouraging diversity within work teams and upholding the benefits of diverse workplace. It should also develop the ability to communicate with people from a range of social and cultural groups with respect and sensitivity, and to address cross – cultural misunderstanding if it arises. The end goal is for the student to be equipped with social awareness and diverse understanding when serving customers and working with colleagues. *Pre-req: TH023-23 for BSHM, TH023-23, TM083F for BSTM; Co-req: None*

TH083 - Philippine Culture and Tourism Geography — 3 units

This course presents comprehensive coverage of the major tourist destinations in the Philippines. Major discussions will be on political structures and subdivisions, geographical characteristics, major attractions, gastronomy, culture and traditions of the various regions of the country leading to the realization of potentials of the Tourism Industry of the Philippines. Students will also have a comprehensive knowledge about the mechanism, logistics, operations and management of the tourism network system in the Philippines with its inherent physical and cultural resources as seen in the various provinces in the country. *Pre-req: TH143 for BSHM and TMElec-4 for BSTM; Co-req: None*

TH093 - Legal Aspects in Tourism and Hospitality — 3 units

The tourism and hospitality industry operates within a comprehensive and domestic, and international, legal and regulatory framework. This course examines this framework and covers the key principles of law applicable to hospitality, tourism and related industries. Various legislation on business organization and several international law issues such as consumer protection, product and service liability, employment and law access to the natural environment will be covered.

Topics include: national and international regulation of travel and hospitality industry; consumer contracts law; the law of carriers and inns; the duties of travel operators and agents; travel insurance law; the law of bailment; the responsibilities of travel agents and tour operators; hotel management law; liquor licensing law; catering law; gaming law; marketing law; consumer rights and complaints; the law regulating payment (including credit card payments); the finance of carriers and inns; criminal and civil liability of people working in the travel and tourism industry.

This course also examines the law regulating the issuance of visa and travel documentation, and consider the liability of the operators, agents, carriers, and government instrumentalities in relation to health and safety issues (including acts of terrorism). *Pre-req: TH023-23; Co-req: None*

TH103 - Entrepreneurship in Tourism and Hospitality — 3 units

This course describes the skills, knowledge and performance outcomes required to plan and develop feasible Business Plan by understanding the nature and scope of entrepreneurship, scanning the market of potential entrepreneurial potential venture opportunities, and identifying and evaluating the methods of venturing into business including but not limited to starting one's own business, buying existing businesses and the process of franchising. It also emphasizes on assessing the possible characteristics and mindset of entrepreneurs, analyzing typical entrepreneurial venture challenges, errors and rewards, identifying effective strategic management, developing product and service innovations and introducing the concepts of environmentally sustainable practices, social entrepreneurship and intellectual property management. *Pre-req: TH053; Co-req: None*

TH143 - Tourism and Hospitality Marketing — 3 units

This course will equipped students with the necessary skills to develop actual marketing campaigns for a business within the tourism and hospitality industry. Emphasis is on the analysis of the market, its competition and its product; preparation of financial budget and the development of a short-term and long-range strategies to achieve desired profit through effective advertising, sales and an effective public relations plan. *Pre-req: TH013; Co-req: None*

III. PROFESSIONAL COURSES

A. TOURISM MANAGEMENT PROFESSIONAL COURSES

TM083F - Global Culture and Tourism Geography   **3 units**
This course shall have a student's analyze and familiarize themselves with specific word travel destinations, with emphasis on the exploration of geographic features, customs and traditions, population centers, visitor attractions, political, religious, language and other cultural differences as these relate to the hospitality and travel industry. Students will develop understanding as well sense of responsiveness for cultural values and traditions that exist beyond their own culture. Students will be able to identify international travel patterns by locating various major cities, natural wonders, historic sites, and other tourism attractions, both man-made and natural focusing as well with the major travel-generating and travel-receiving areas. *Pre-req: TH083; Co-req: FL073*

TM123 - Tour and Travel Management   **3 units**
The course studies the role of the Travel Agency and Tour Operator in the Tourism Industry, leading to a better understanding of the trade and its internal workings, the role of each component in offering cost effective and good "value for money" products for its clients. It also includes topics such as tour products and its efficient development and marketing as well as a travel agency and tour operator organization and functions. In addition to lecture classes, the students are exposed to the skill required in the travel trade, such as interpersonal and communication skills, terminologies, documentation, procedures and systems used. *Pre-req: TMElec-4, TH143; Co-req: TM132, TM131L*

TM132 - Applied Business Tools and Technologies for Tourism   **2 units**
This course identifies common tools, technology and techniques used in the Tourism and Hospitality industry. It includes an overview of the applications or systems composed of technical processes, methods, software and hardware that have evolved and streamlined certain functions in the workplace. These applications and systems include those used in (1) an organization's internal functions, (2) business-to-business operations (including operations with suppliers) and (3) business-to consumer transactions. The goal is to expose students to different applications so he/she can identify, learn, analyze and understand available devices solutions, from which they can select the one/s that is most appropriate for the business function, Topics covered: how to utilize information technology application; how to use various communication channels in dealing with guests and colleagues; how to access and retrieve electronic-based data; how to perform administrative and clerical procedures; how to receive and process reservations; how to source and provides destinations information and advice; how to produce applicable travel documentation, etc. The student will also learn to appreciate the impact of technological innovations to the economy, the industry, the organization's business model and to specific functions/operations of the organization. This will also ensure that the students will also know the value of including tools and technology in its business strategy.
Pre-req: TH143; Co req: TM131L, TM123

TM131L - Applied Business Tools and Technologies for Tourism Lab   **1 unit**
This course is the laboratory component of TM132 (Applied Business Tools and Technologies for Tourism).
Pre-req: TH143; Co req: TM132, TM123

TM163B - Transportation Management 3 units
This course discusses the general knowledge of the transportation, its role to the tourism, planning and policies. The content includes transportation systems, various aspects of tourism-related forms of transportation, modes of transportation, transportation operation including concepts and methods analysis, infrastructure, and geographical and legal factors relating to local and international transportation. Topics include discussions of surface, air, and water transportation; organization, operations, and regulatory and marketing aspects; examination of the inter-model concept; and the social, economic and political factors that have influenced government transportation priorities. *Pre-req: BMC143, TM083F; Co-req: None*

TM171- Introduction to Meetings Incentives, Conferences and Events Management (MICE) 1 unit
This course examines the principles of conceptualizing, planning, managing, and evaluating events, conferences, meetings, festivals and other such special activities. Topics include the significance of conventions and events in tourism. Lessons include discussions on event conceptualization, event design, project/event management, methods of monitoring and evaluation, physical requirements, organizing, promotions, sponsorships and handling the financial aspects of such tasks. This will give the students the skills and knowledge to develop business strategies to get MICE business and retain the clients, as well as to identify, understand and overcome the intricate challenges of collective supplier management and engagement. This is an integration course that applies all the principles of management and foundation tourism and hospitality courses. *Pre-req: TM083F, TMELEC-5; Co req: TM172L,TM263*

TM172L - Introduction to Meetings Incentives, Conferences and Events Management (MICE) Lab
2 units
This course is the laboratory component of TM172 (Introduction to Meeting Incentives, Conferences and Events Management (MICE) as Applied to Hospitality). The terminal course requirement shall be an actual event execution related to tourism and hospitality industry. *Pre-req: TM083F, TMELEC-5; Co-req: TM171, TM263*

TM203 - Sustainable Tourism 3 units
Students will have a broad understanding of environmental issue and their impact upon the tourism industry, therefore subject area such as pollution, waste management and biodiversity will be a primary focus. Awareness and the understanding of the implications of tourism impacts, especially on socio-cultural and environmental aspects, are critical to properly guided sustainable tourism planning and development. The natural and cultural environments of communities and global destinations will be explored to enable students to critically interpret tourism interdependency, and the changes and development of domestic and international tourism policy. The course critically examines tourism planning as a process and as a set of techniques of sustainable tourism development. It focuses on the physical environment of tourism planning, and the social, cultural and political realities of planning and policy making. *Pre-req: TM083F; Co-req: None*

TM263 - Tourism Policy Planning and Development 3 units
Students will be able to understand tourism planning as a process and as a set of techniques for sustainable tourism development giving importance on the physical environment and the social, cultural and political realities of planning and policy making. Students will engage with practical planning tools and strategies, industry, government, field work, and individual and group projects to develop and understanding of tourism policy-making processes, and to gain skills in both evaluation and development of tourism plans and policies.

Students will discover tourism as a strategy for urban revitalization, conservation, agriculture, and historic preservation while promoting the value of tourism in enhancing community character, culture, quality of life and sense of place. Case studies in Philippine-setting are emphasized. Discussions will also be made on the Philippine Tourism Master Plan to allow the students an overview of what real plans are like and experience evaluation by measuring the actual achievements of the government against their plans. The course may include a field trip component. *Pre-req: TM163B, TMELEC-5; Co-req: TM172L, TM171*

TMElec-1 - Philippine Gastronomical Tourism   1 unit
This course provide students an opportunity to explore the concept of gastronomical tourism between regions and its economic impact on the Philippine tourism industry. Topic includes: impact of food and culture in the tourism marketplace, assessment of regional foods, and food-related events that have an impact on tourism. *Pre-req: TH033; Co-req: TMElec-1L*

TMElec-1L - Philippine Gastronomical Tourism Lab   2 units
This is the laboratory component of TMElec-1 (Philippine Gastronomical Tourism). This course aims to provide students, thru demonstrations, the principles of preparing authentic Filipino cuisine associated to each regions in the Philippines with emphasis on the techniques, ingredients, spices and influences. *Pre-req: TH033; Co-req: TMElec1*

TMElec-4 - Tour Guiding   3 units
This course provide students with comprehensive knowledge on techniques and best practices in guiding travelers in their travels locally and abroad. Particular emphasis will be given to planning, coordinating, and handling tour activities in consideration with risk assessment, safety and security. *Pre-req: TMElec-1, TMElec -1L, TH013; Co-req: None*

TMElec-5 - Heritage Tourism   3 units
This course is designed to provide an understanding of the concepts of cultural heritage tourism. Theory, practice, history, terminology and current issues of cultural heritage and tourism planning and management will be examined. Additionally, basic survey of cultural and heritage components, motives and behaviors of heritage tourists attraction (museums, arts, festivals/events, urban/rural areas and landscapes), interpretation economics and policies will be discussed. *Pre-req: TH083; Co-req: None*

TMElec-7 - Recreational and Leisure Management   3 units
This course provides students an appreciation of the other components of hospitality and tourism management as travel trends, developments and operators of resorts, hotels, golf courses and country club facilities for recreation and leisure. *Pre-req: BMC143; Co-req: None*

TMElec-8- In-Flight Services   3 units
Inflight services cover areas that will equip the students with the necessary knowledge and skills needed to render exceptional customer service without compromising the safety aspect of air travel. Topics include Dangerous Goods, their labels, markings, and classification; General Safety Equipment and its operation; First Aid and Basic Life Support (CPR); Basics of Transportation Security Awareness; Handling of Inflight Unusual Occurrences; Handling customer concerns and complaints; as well as Demonstration of the safety features of the aircraft and grooming. *Pre-req: TMElec-4; Co-req: None*

TMElec-9 - Medical and Wellness Tourism   3 units
The goal of this course is to equip students with the competitiveness and interpersonal skills they will need to meet the needs of the medical and wellness tourism industry. Topics include Introduction to Medical and Wellness Tourism including its historical overview, definitions and concepts, The Medical and Wellness Tourism Business which will cover the growth, benefits, and issues involved in this industry, Medical and Wellness Dimensions covering the different types, areas and examples of Medical and Wellness activities and the Medical and Wellness Tourism Market focusing on tourist' profile, market analysis and medical and wellness product design. *Pre-req: BMC143, TH093; Co-req: None*

B. PRACTICUM/WORK LEARNING

TMResA – Research in Tourism 1   3 units
This course is designed to provide students with the principles and techniques of writing a research project geared towards tourism and hospitality industry. Project may be in collaboration with Hospitality Management. The end result shall be a research proposal on a business venture in tourism industry or any research that will contribute to the development of the tourism industry. *Pre-req: TM083F; Co-req: None*

TMResB – Research in Tourism 2   3 units
This course pertains to the preparation and presentation of the terminal paper as proposed in TM-RP1 (Research Project I) Capstone design project. *Pre-req: TMResA; Co-req: None*

TM-PRC6-23 - Practicum (600 hours)   6 units
Practicum provides opportunities to apply classroom learning to actual work. In this respect, the student shall undergo job exposure in all areas of the tourism operations to include: Tour Operations, Government agencies in Tourism and Hospitality, MICE, and other relevant of exposure based on specialization/training received in school. *Pre-req:* TH073, TM171, TM172L, TM263, TMResB*; Co-req: None*

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