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GENERAL EDUCATION CORE SUBJECTS

GEC01	Understanding the Self
Course Description	This course deals with the nature and identity factors and forces that affect the development and maintenance of personal identity.
Course Credit	3 Units

GEC02	Readings in Philippine History
Course Description	This course is all about Philippine History viewed form the lenses of selected primary sources in different periods, analysis, and interpretation.
Course Credit	3 Units

GEC03	The Contemporary World
Course Description	This course deals with the globalization and its impact on individuals, communities and nations, challenges and responses
Course Credit	3 Units

GEC04	Mathematics in the Modern World
Course Description	This course deals with the nature of Mathematics, appreciation of its practical, intellectual, and aesthetic dimensions and application of mathematical tools in daily life
Course Credit	3 Units

GEC05	Purposive Communication
Course Description	This course deals with writing, speaking, and presenting for different audiences and for various purposes
Course Credit	3 Units

GEC06	Art Appreciation
Course Description	This course deals with the nature, function, and appreciation of the arts in the contemporary society.
Course Credit	3 Units

GEC07	Science, Technology and Society
Course Description	Analyses of the past, present, and future of science and technology in society (including their nature, scope, role, and function) and the social, cultural, political, economic, and environmental factors affecting the development of science and technology, with emphasis on the Philippine setting.
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GEC08	Ethics
Course Description	This course deals with the principles of ethical behavior in modern society at the level of the person, society, and interaction with the environment and other shared resources
Course Credit	3 Units

GENERAL EDUCATION ELECTIVE SUBJECTS

GEE01	Philippine Popular Culture
Course Description	This three-unit course provides the students with critical perspectives in understanding and way of knowing popular culture in the Philippines. This course aims to explore new forms of art, music, and literature arising from opportunities and demands of mass audiences, markets, and mass media, and their social, economic and political contexts. This course also locates popular culture as a historic-spatial condition and phenomenon of Philippine modernity. It aims to investigate how the term popular culture is operationalized, circulated, re-produced, consumed and instrumentalized by the recurring social order.
Course Credit	3 Units

GEE02	Environmental Science
Course Description	This three-unit course deals with the general concepts and principles pertaining to complex patterns of interaction between the physical environment and biological communicates on earth. Emphasis is also given on the current environmental issues and concerns as well as disaster risk management techniques.
Course Credit	3 Units

GEE03	Gender and Society
Course Description	This three-unit course aims to analyze the role of gender in society in interdisciplinary and intersectional gender studies perspectives. Students develop an independent ability to discuss theories and analyze the role of gender in societal development. The course covers different empirical and theoretical perspectives in gender studies in relation to how gender, ethnicity, class, religion, ability, and sexuality interplay with societal institutions and the development of society, with a focus on how this interplay creates and shapes gendered bodies, subjects, identifications, gender relations, and power structures.
Course Credit	3 Units

GENERAL EDUCATION MANDATED SUBJECT

RIZAL	Life and Works of Rizal

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Course Description	This course is designed to orient the students about the life, works and writings of the greatest hero and martyr of our nation from the day of his birth until the day of his death.
Course Credit	3 Units

GENERAL EDUCATION INSTITUTIONAL SUBJECTS

CFVE01	Christian Foundation and Values Education 1
Course Description	This course is an introduction of the study of the Bible, the nature and being of God in the power of God's word in one's life, with emphasis of the life, person, and ministry of the Lord Jesus Christ. It also embraces Biblical Christian values that will inspire the students to live uprightly and to achieve excellent and honorable aspirations. This course also presents an in department study scriptural study of life of an Old and New Testament personalities using both positive and negative examples, students learn from context to face both the challenges of everyday living and overwhelming experiences and to prepare the students in real life situations.
Course Credit	3 Units

CFVE02	Christian Foundation and Values Ed 2
Course Description	This course provides instructions toward righteous living in the sight of God. One strong evidence that God truly has created humans is the "inner sense of morality" in man which means that man was made in the image of God Himself and was given the ability to choose what is good and right thing to do.
Course Credit	3 Units

COMMON COURSES

INTROCOM	Introduction to Computing
Course Description	This course provides an overview of the Computing Industry and Computing profession including Research and Applications in different fields, an Appreciation of Computing in different fields such as Biology, Sociology, Environment and Gaming, an understanding of ACM Requirements, an Appreciation of the history of computing and knowledge of the key components of Computer Systems (Organization and Architecture), Malware, Computer Security, Internet and Internet Protocols. HTML4/5 and CSS.
Course Credit	3 Units

COMPRO1	Fundamentals of Problem Solving and Programming 1
Course Description	The Course covers the use of General purpose programming language to solve problems. The emphasis is to train students to design, implement, test, and debug

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	programs intended to solve computing problems using fundamental programming construct.
Course Credit	3 Units

COMPRO2	Intermediate Problem Solving and Programming 2
Course Description	This course is a continuation of IT02. The emphasis to train students to design, implement, test and debug programs intended to solve computing problems using basic data structures and standard libraries.
Course Credit	3 Units

DATASTRUC	Data Structures and Algorithm
Course Description	The course covers the standard data representation and algorithms to solve computing problems efficiently (with respect to space requirements and time complexity of algorithm). This covers the following: Stacks, Queues, Trees, Graphs, Maps, and sets thorough discussions of sorting and searching algorithms and hashing is covered.
Course Credit	3 Units

INFOMAN1	Information Management 1
Course Description	This course covers information management, database design, data modeling, SQL, and implementation using relational database system.
Course Credit	3 Units

APPDEV	Applications Development and Emerging Technologies
Course Description	This course covers physical design and implementation of information systems applications. Implementation in emerging distributed computing environments using traditional and contemporary development methodologies. Students will utilize a contemporary development environment to implement a project that spans the scope of the pre-requisite courses. Object-oriented programming and methods and some procedural methods will be employed.
Course Credit	3 Units

PROFESSIONAL COURSES

AUTOMAT	Automata Theory and Formal Languages
Course Description	This course introduces the formal models of computing and their relation to formal languages.
Course Credit	3 Units

COMPORG	Computer Organization and Architecture

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Course Description	Introduction and overview of basic computer organization. Computer arithmetic: binary, hexadecimal and decimal number conversions, binary number arithmetic and IEEE binary floating point number standard. Basic computer logic: gates, combinational circuits, sequential circuits, adders, ALU, SRAM and DRAM. Basic assembly language programming, basic Instruction Set Architecture (ISA), and the design of single cycle CPU.
Course Credit	3 Units

IAS	Information Assurance and Security
Course Description	This course covers fundamental concepts necessary to understand the threats to security as well as various defences against the threats. This also includes an understanding of existing threats, planning for security, technology used to defend a computer system and implementing security measures and technology.
Course Credit	3 Units

DATACOM	Data Communication and Networking
Course Description	This course teaches the design and implementation techniques essential for engineering robust networks. Topics include networking principles, Transmission Control Protocol/Internet Protocol, naming and addressing (Domain Name System), data encoding/decoding techniques, link layer protocols, routing protocols, transport layer services, congestion control, quality of service, network services, Software Defined Networks (SDNs), programmable routers and overlay networks, wireless and mobile networking, security in computer networks, multimedia networking, and network management.
Course Credit	3 Units

ALGORIT	Design and Analysis of Algorithms
Course Description	A study on the design and analysis of algorithms, which introduces students to the techniques in basic algorithmic analysis, algorithmic strategies, sorting and searching, graph algorithms, and geometric algorithms.
Course Credit	3 Units

DISTRUC1	Discrete Structures 1
Course Description	This course introduces the foundations of discrete mathematics as they apply to computer science. Topics include functions, relations and sets, basic logic, proof techniques, basics of counting and introduction to digital logic and digital systems.

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Course Credit	3 Units

DISTRUC2	Discrete Structures 2
Course Description	This course is a continuation of Discrete Structures 1. Topics include induction and recursion, counting, discrete probability, advanced counting techniques, relations, graphs and boolean algebra.
Course Credit	3 Units

UIUX	UI/UX Design and Programming
Course Description	The course is intended to introduce students to the discipline concerned with the design, evaluation & implementation of various computing systems intended for human use. Emphasis will be placed on understanding human behavior with interactive objects, knowing how to develop and evaluate interactive software using a human-centered approach, and general knowledge of HCI design issues with multiple types of interactive applications.
Course Credit	3 Units

OOP	Object Oriented Programming
Course Description	This course allows the student to learn and apply the basic language syntax and principles of object-oriented programming to solve computational problems adhering to the standards and guidelines of documentation.
Course Credit	3 Units

PRACTIC	PRACTICUM (240 Hours)
Course Description	Practicum/OJT is a required course for Bachelor of Science in Computer Science. This course focuses on the application and integration of knowledge, attitude, values and skills in the workplace. It encapsulates the application of theories acquired in the classrooms and actual experiences in the workplace, whereby students will have the opportunity to experience a real life workplace scenario. Further, the students will be exposed to relevant workplace challenges that may soon arise in the practice of their practicum. Thus, making the students to have a firsthand knowledge on how things are being practice and in the workplace.
Course Credit	3 Units

OPERSYS	Operating Systems
Course Description	This course provides an introduction to the concepts, theories and components that serve as the bases for the design of classical and modern operating systems. Topics include process and memory management, process synchronization and deadlocks.

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Course Credit	3 Units

SOCPROF	Social and Professional Issues
Course Description	The course introduces ethics and ethical theories; provides discussions on the ethical dilemmas and issues facing practitioners. An appreciation and discussion of the Code of Ethics of IT Professionals; cybercrimes and appropriate Philippine Laws are also included.
Course Credit	3 Units

PROGLAN	Programming Languages
Course Description	This course provides students the fundamental features and concepts to different programming languages. Topics include overview of programming languages, Introduction to language translation, type systems, data and execution control, declaration and modularity, and syntax and semantics.
Course Credit	3 Units

SOFTENG1	Software Engineering 1
Course Description	This course provides an overview of the software engineering process. Topics include requirement analysis, analysis modeling, software design fundamentals, software testing, quality assurance, quality processes and software maintenance. Principles of object-oriented programming, programming languages, object-oriented modeling and ethical issues are also discussed.
Course Credit	3 Units

SOFTENG2	Software Engineering 2
Course Description	This course is a continuation of software engineering 1. Topics includes software requirements engineering, software architecture. Modelling, object-oriented design patterns and software testing.
Course Credit	3 Units

THESIS1	CS Thesis 1
Course Description	This course exposes students performing research in "real world setting and explore how and why various information/computer systems are designed, implemented and used. The primary focus of the course is collection, analysis and interpretation of qualitative and quantitative empirical data across the broad range of CS disciplines. This subject enable student to propose a research study, appropriate research methodology, perform data collection techniques and analysis. Students are provided the opportunity to write a substantial proportion of their methodology/data collection.

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Course Credit	3 Units

THESIS2	CS Thesis 2
Course Description	This course focuses on a culminating activity that generates an output useful in the development of solutions. The developed thesis shall be accepted if the same can only be developed upon application and integration of all the desired outcomes which the students have gained from his educational experiences.
Course Credit	3 Units

ADDITIONAL PROFESSIONAL COURSES

WEBDEV1	Web Development 1
Course Description	In this class, students will focus on learning the basics of web design and coding in HTML, CSS, and Javascript. The premier markup and styling languages of the internet. Students will learn to use HTML tags to create forms, tables, navigation bars, website layouts, and to embed pictures and videos. The student will also learn how to design their web pages using CSS. The students will be using Javascript as their programming language. Near the end of the course, students will also learn about web hosting and will be given the opportunity to upload their work online.
Course Credit	3 Units

WEBDEV2	Web Development 2
Course Description	PHP or Hypertext Preprocessor is a server-side and open source programming language that is used for developing interactive web sites. PHP is described as a simple language and it is relatively easy to learn which makes PHP as one of the fastest-growing programming languages today. Web Development 2 will equip the students basic to advance topics pertaining to developing websites using PHP; this will cover from basic coding to advanced database connection. It will give the students confidence to develop web sites that primarily connect to certain databases and will give them the edge and competency with other IT professionals in the future.
Course Credit	3 Units

MOBDEV1	Hybrid Mobile Development

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Course Description	In this course, the students will learn about cross-platform (iOS and Android) mobile application development using the Flutter framework. The students will explore concepts such as stateful and stateless widgets; material design; themes; assets; text input; gestures; retrieving local and real-time data; using location services and maps; testing mobile applications; architecting and employing best practices for developing mobile applications. The course has both lecture and laboratory sessions. The lecture session covers basic concepts whereas the lab sessions give hands-on experience on the topics covered in the lecture sessions.
Course Credit	3 Units

MOBDEV2	Native Mobile Development
Course Description	This course is concerned with the development of applications on mobile and wireless computing platforms.In this course the students will learn Kotlin, the recommended programming language for developing Android apps. The students will use the Android Studio tool to build these apps, and the students will learn the fundamental concepts of Android development along the way. By the end of this course, you will have created a collection of well-designed, interesting, and fun Android apps.
Course Credit	3 Units

QUANTI	Quantitative Methods
	This course introduces the basic concepts of data analysis and statistical computing, both increasingly. The emphasis is on the practical application of quantitative reasoning, visualization, and data analysis. The goal is to provide students pragmatic tools for assessing statistical claims and conducting their own basic statistical analyses.
Course Credit	3 Units

INFOMAN2	Information Management2
Course Description	The course covers discussion of database systems, the nature of the data, data association, data semantics and data models. A specific DBMS will be used to implement data models for use in business application programs.
Course Credit	3 Units

EVENTDP	Event-Driven Programming
Course Description	This course introduces computer programming using object-oriented programming principles. Emphasis is on event-driven programming methods, including creating and manipulating objects, classes, and using object-oriented

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	tools such as the class debugger. Upon completion, students should be able to design, code, test and debug at a beginning level.
Course Credit	3 Units

FAS	Fieldtrips and Seminars
Course Description	Fieldtrips and Seminar is a required course for Bachelor of Science in Information Technology (IT). Students have the opportunity to have a short glimpse of what is stored for them after their graduation. Further, students will be exposed to relevant and information technology related industry as a part of their company visit. This course is more than applying knowledge whereby it requires the thoughtful application of skills in actual conduct trainings, workshops and seminars respectively. Thus, making students have the firsthand experience on how these events are being practiced in any given field of specialization. Further, students are required to have at least Ten (10) company visits during their semester may it either be in the Great Manila Area or in the nearby provinces. Furthermore, this requires enrolled students to conduct/organize seminars and submit a well organize, scholarly done documentation thereafter as part on their output. Moreover, students also are bound to find/initiate/convince/look up to/solicit who will be their lecturer/keynote speaker/resource person for the seminar with the approval of the adviser. Topics that are to be presented must be within the bounds of information technology and computer engineering vs. management information systems, robotics, web application, embedded systems, trends in information technology, trends in computer engineering, software development applications and software/hardware engineering.
Course Credit	1 Unit

PROFESSIONAL ELECTIVES

CSE01	CS Elective 1
Course Description	This course provides an overview of some emerging techniques and technologies in Information Technology and teaches concepts of advanced programming languages.
Course Credit	3 Units

CSE02	CS Elective 2
Course Description	In this course, students will learn the different types of data analysis and the key steps in a data analysis process. The basic techniques of data science which

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	includes prominent algorithms uses to mine data and basic statistical modeling will also be included.
Course Credit	3 Units

CSE03	CS Elective 3
Course Description	An introduction to the fundamentals of computer graphics, visualization, and visual computing. Topics covered include concepts of light, color, two- and three-dimensional representations, data visualization, image processing, image rendering, and animation.
Course Credit	3 Units

CSE04	CS Elective 4
Course Description	This course provides an introduction on machine learning. It gives an overview of many concepts, techniques and algorithms in machine learning, beginning with topics such as classification and linear regression and ending up with more recent topics such as support vector machines. The course is divided into three main topics: supervised learning, unsupervised learning, and machine learning theory.
Course Credit	3 Units

CSE05	CS Elective 5
Course Description	This is an advanced course on machine learning, focusing on recent advances in deep learning with neural networks, such as recurrent and Bayesian neural networks. The course will concentrate especially on natural language processing (NLP) and computer vision applications. Recent statistical techniques based on neural networks have achieved remarkable progress in these fields, leading to a great deal of commercial and academic interest. The course will introduce the mathematical definitions of the relevant machine learning models and derive their associated optimisation algorithms. It will cover a range of applications of neural networks in natural language processing, including analysing latent dimensions in text, translating between languages, and answering questions
Course Credit	3 Units

FREE ELECTIVES

FE01	Free Elective 1
Course Description	The course is an introduction to Business Analytics. It covers managerial statistical tools in descriptive analytics and predictive analytics, including regression. Other topics covered include forecasting, risk analysis, simulation, and data mining, and decision analysis. This course provides students with the fundamental concepts and tools needed to understand the emerging role of

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	business analytics in organizations and shows students how to apply basic business analytics tools in a spreadsheet environment, and how to communicate with analytics professionals to effectively use and interpret analytic models and results for making better business decisions. Emphasis is placed on applications, concepts and interpretation of results, rather than theory and calculations. Students use a computer software package for data analysis.
Course Credit	3 Units

FE02	Free Elective 2
Course Description	This syllabus is designed for learners who are learning a new foreign language. The aim is to develop an ability to use the language effectively for purposes of practical communication.
Course Credit	3 Units

FE03	Free Elective 3
Course Description	The course includes the journey into the world of entrepreneurship with introspection of a business idea into a viable venture. The focus is on unleashing the entrepreneurial spirit in each individual
Course Credit	3 Units

FE04	Free Elective 4
Course Description	This course uses the "Lean Startup" concept as a canvas to give students the essential knowledge needed to either start their own business or join a startup and be a major contributor. In addition to learning about entrepreneurship, the legal aspects of starting a business, and the life and experience of working at a startup, students will get hands-on skills they can use in any startup or to start their own business. Every student will practice these skills in-class by building a real startup business (based on a pre-set collection of products and services).
Course Credit	3 Units

PHYSICAL EDUCATION

PE01	Physical Fitness and Wellness
Course Description	This course is designed to provide students knowledge and skills in maintaining a balanced and healthy lifestyle through various physical exercises, proper posture, healthy diet , and fitness and wellness programs. Further, it also includes the basic steps in dancing, and types of Philippine and foreign dances. This course enables the students value the benefits of physical wellness and fitness and apply its principles in their life.

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Course Credit	2 Units

PE02	Self Defense
Course Description	This course is designed to familiarize the students with the various techniques and strategies in protecting oneself in harmful situations. This course also provides awareness on the students the importance of psychological awareness, alertness, physical health and endurance during difficult situations. Further, it also train students on physical and mental training in using self-defense techniques.
Course Credit	2 Units

PE03	Swimming with Basic Life Support
Course Description	This course deals with the fundamentals of swimming and survival skills. The students are expected to learn the basic and advanced strokes and skills associated with swimming and survival techniques.
Course Credit	2 Units

PE04	Sports
Course Description	This course deals with various indoor and outdoor activities designed to arouse the student's interests and abilities to develop self-esteem, perseverance, courage, and sense of creativity which will be utilized and carried on to their lifetime endeavors. Covers also activities in which the emphasis is placed upon the development of physical skills through recreational sports essential for stress management.
Course Credit	2 Units

NATIONAL SERVICE TRAINING PROGRAM

NSTP1	Civil Welfare Training Service 1
Course Description	This course is pursuant to Republic Act No. 9163, otherwise known as the National Service Training Act of 2001, which mandates tertiary educational institutions to incorporate in the collegiate curriculum a program aimed at "enhancing civic consciousness and defense preparedness in the youth by developing the ethics of service and patriotism".
Course Credit	3 Units

NSTP2	Civil Welfare Training Service 2
Course Description	This course is sequel to NSTP 1 and is destined to immerse students in activities that will arm them the capability to contribute in the upliftment of the

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	general welfare and the quality of life of the community and the enhancement of its facilities especially those that are devoted to improving the health, environment, entrepreneurship, safety, recreation, and morale of the citizen.
Course Credit	3 Units

ADDITIONAL MATH REQUIREMENT

CALCULUS	Differential and Integral Calculus
Course Description	A course covering the real number system as a complete, ordered field; topological properties of R and R2, limits and continuity.
Course Credit	3 Units