



## **SCHOOL OF ENGINEERING**

# **SoE**

## **PROSPECTUS**

**SCHOOL YEAR 2015-2016**

### **BACHELOR OF SCIENCE IN COMPUTER ENGINEERING**

Computer Engineering is a profession that applies engineering principles and methodologies in the analysis, design, implementation and management of hardware, the underlying software and the integration of both. Graduates of this course must have knowledge of software systems on algorithms, data structures and digital logic, switching theory, computer architecture and performance analysis. More so, graduates will be able to perform tasks such as the design of microprocessors and the development of embedded systems.

## Bachelor of Science in Computer Engineering

### FIRST YEAR

FIRST TRIMESTER			SECOND TRIMESTER			THIRD TRIMESTER		
COURSE	COURSE DESCRIPTION	UNITS	COURSE	COURSE DESCRIPTION	UNITS	COURSE	COURSE DESCRIPTION	UNITS
ALGEBRA	College Algebra	3	ALGEBR2	Advanced Algebra	2	EPUBSP1	Public Speaking 1	3
PSTRIGO	Plane and Spherical Trigonometry	3	ANALYTC	Analytic Geometry	2	EPUBSP2	Public Speaking 2	3
EORIENT	Engineering Orientation	1	SOLIMEN	Solid Mensuration	2	EEXWRIT	Expository Writing	3
SOCUVAL	Society and Culture with Values Education	3	PHYLEC1	Physics for Engineering 1 Lec	3	ETECWRT	Technical Writing	3
DRAWNG1	Engineering Drawing 1	1	PHYLAB1	Physics for Engineering 1 Lab	1	EGRAMCM	Grammar Composition	3
FILIONE	Sining ng Pakikipagtalastasan	3	APPROJ1	Application Project 1	3	COMPRG2	Computer Programming 2	1
ITCONCE	I.T. Concept	3	CHEMENG	Chemistry for Engineering Lec	3	WORLLIT	World Literature	3
PEDUONE	PE 1	2	CHEMLAB	Chemistry for Engineering Lab	1	DICALCU	Differential Calculus	4
			COMPRG1	Computer Programming 1	1			
			FILITWO	Panitikang Filipino	3			
			PEDUTWO	PE 2	2			
<b>TOTAL UNITS</b>		<b>19</b>	<b>TOTAL UNITS</b>		<b>21</b>	<b>TOTAL UNITS</b>		<b>23</b>

### SECOND YEAR

FIRST TRIMESTER			SECOND TRIMESTER			THIRD TRIMESTER		
COURSE	COURSE DESCRIPTION	UNITS	COURSE	COURSE DESCRIPTION	UNITS	COURSE	COURSE DESCRIPTION	UNITS
NATSER1	National Service 1	3	ELEX1LC	Electronic Devices and Circuits Lec	3	DIFEQUA	Differential Equations	3
INCALCU	Integral Calculus	4	ELEX1LB	Electronic Devices and Circuits Lab	1	ELEX2LC	Electronic Circuit Analysis and Design Lec	3
DISCRET	Discrete Mathematics	3	MECHAN1	Statics of Rigid Bodies	3	ELEX2LB	Electronic Circuit Analysis and Design Lab	1
PHYLEC2	Physics for Engineering 2 Lec	3	CIRCKT1	Circuits 1 Lec	3	LOGCIST	Logic Circuits and Switching Theory Lec	3
PHYLAB2	Physics for Engineering 2 Lab	1	CIRLAB1	Circuits 1 Lab	1	LOGLAB1	Logic Circuits and Switching Theory Lab	1
ARTAPRE	Art Appreciation	3	COMPFUN	Computer Fundamentals	1	ERESWRT	Research Writing	3
PCBOARD	Printed Circuit Board Prototype and Assembly	1	COSYSOR	Computer Systems Organization Lec	3	GRAPHD1	Graphical System Design Lab 1	1
DASTRAA	Data Structures and Algorithm Analysis Lec	3	CORGLAB	Computer Systems Organization Lab	1	OBJECLC	Object Oriented Programming Lec	2
DASTLAB	Data Structures and Algorithm Analysis Laboratory	1	DATAMNT	Database Management	3	OBJECLB	Object Oriented Programming Lab	1
PEDUTRI	PE 3	2	PEDUFOR	PE 4	2	NATSER2	National Service 2	3
<b>TOTAL UNITS</b>		<b>24</b>	<b>TOTAL UNITS</b>		<b>21</b>	<b>TOTAL UNITS</b>		<b>21</b>

### THIRD YEAR

FIRST TRIMESTER			SECOND TRIMESTER			THIRD TRIMESTER		
COURSE	COURSE DESCRIPTION	UNITS	COURSE	COURSE DESCRIPTION	UNITS	COURSE	COURSE DESCRIPTION	UNITS
QUAMET1	Quantitative Methods	3	MECHAN2	Dynamics of Rigid Bodies	2	ENGECON	Engineering Economy	3
ADVMATH	Advanced Engineering Mathematics	3	COMPARC	Computer Systems Architecture Lec	3	CONTSYS	Control Systems Lec	3
ALCDCOE	Advanced Logic Circuit Design Lec	3	COMPARL	Computer Systems Architecture Lab	1	CONTLAB	Control Systems Lab	1
LOGLAB2	Advanced Logic Circuit Design Lab	1	EMICROP	Microprocessor System Lec	3	OPESCOE	Operating Systems for CpE Lec	3
CIRCKT2	Circuits 2 Lec	3	EMICLAB	Microprocessor System Lab	1	OPESLAB	Operating Systems for CpE Lab	1
CIRLAB2	Circuits 2 Lab	1	COMSYST	Principles of Communications	3	CPEMET2	Methods of Research for Computer Engineering 2	1
DRAWNG2	Engineering Drawing 2 with CADD	1	CPEMET1	Methods of Research for Computer Engineering 1	1	ENVENGG	Environmental Engineering	2
SYSADLC	Systems Analysis and Design Lec	2	GRAPHD2	Graphical System Design Lab 2	1	SAFEMAN	Safety Management	1
SYSADLB	Systems Analysis and Design Lab	1	SOFTENG	Software Engineering	3	BEHASCI	Behavioral Science	3
TRA1CPE	Visual Basic Programming	3	TRA2CPE	Java Programming	3	TRA3CPE	Online Technology	3
<b>TOTAL UNITS</b>		<b>21</b>	<b>TOTAL UNITS</b>		<b>21</b>	<b>TOTAL UNITS</b>		<b>21</b>

### FOURTH YEAR

FIRST TRIMESTER			SECOND TRIMESTER			THIRD TRIMESTER		
COURSE	COURSE DESCRIPTION	UNITS	COURSE	COURSE DESCRIPTION	UNITS	COURSE	COURSE DESCRIPTION	UNITS
ENGGMGT	Engineering Management	3	ENTREPS	Technopreneurship	3	INTERN1	Internship 1	9
DATCOMM	Data Communications	3	DEFORMD	Mechanics of Deformable Bodies	3			
DATCLAB	Data Communications Lab	1	FLDTRPS	Seminars and Field Trips	1			
PHILMAN	Philosophy of Man	3	NETWLEC	Computer Networking Lec	3			
SIGPROC	Digital Signal Processing Lec	3	NETWLAB	Computer Networking Lab	1			
SIGPLAB	Digital Signal Processing Lab	1	ENGLAWS	Engineering Law and Ethics	2			
DESPRO1	Design Project 1	1	PROFETH	Professional Ethics	3			
RIZLIFE	Life and Works of Rizal	3	DESPRO2	Design Project 2	1			
ECON TAX	Economics Taxation	3	POLGOVT	Politics and Governance	3			
<b>TOTAL UNITS</b>		<b>21</b>	<b>TOTAL UNITS</b>		<b>20</b>	<b>TOTAL UNITS</b>		<b>9</b>

FIFTH YEAR								
FIRST TRIMESTER			SECOND TRIMESTER			THIRD TRIMESTER		
COURSE	COURSE DESCRIPTION	UNITS	COURSE	COURSE DESCRIPTION	UNITS	COURSE	COURSE DESCRIPTION	UNITS
INTERN1	Internship 1	9						
<b>TOTAL UNITS</b>		<b>9</b>						

PROFESSIONAL ELECTIVES								
FIRST TRIMESTER			SECOND TRIMESTER			THIRD TRIMESTER		
COURSE	COURSE DESCRIPTION	UNITS	COURSE	COURSE DESCRIPTION	UNITS	COURSE	COURSE DESCRIPTION	UNITS
TRA1CPE	Visual Basic Programming	3	TRA2CPE	Java Programming	3	TRA3CPE	Online Technology	3
TRB1CPE	Sensor Technology	3	TRB2CPE	Modeling and Simulation	3	TRB3CPE	Robotics	3
TRC1CPE	Emerging Technology	3	TRC2CPE	Principles of Technology and IT acquisition Management	3	TRC3CPE	Information Systems and Security Management	3

## BACHELOR OF SCIENCE IN COMPUTER ENGINEERING

### TECHNICAL COURSES

#### MATHEMATICS

COURSE CODE	SUBJECT	PRE-REQUISITE	DESCRIPTION
ALGEBR2	Advanced Algebra	ALGEBRA	This course covers matrices and determinants, arithmetic and geometric series, solution sets of different types of inequalities and systems involving quadratics, and solution of linear equations using determinants and matrices.
ALGEBRA	College Algebra	NONE	This course covers the basic concepts of sets, real numbers, algebraic expressions, rational and radical expressions, linear equations and inequalities in one and two variables, quadratic equation in one variable, systems of linear equations in one, two and three variables. It also includes applications of equations to real life situations.
ANALYTC	Analytic Geometry	ALGEBRA PSTRIGO	This course covers equations of lines and conic sections, curve tracing in both rectangular and polar coordinates in two – dimensional space.
DICALCU	Differential Calculus	ALGEBR2 ANALYTC	This 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, and partial differentiation and transcendental curve tracing.
DIFEQUA	Differential Equations	INCALCU	This course covers the differentiation and integration in solving first order, first – degree differential equations, and linear differential equations of order n, and laplace transforms in solving differential equations.
INCALCU	Integral Calculus	DICALCU	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 multivariable functions; tracing of functions of two variables.
PSTRIGO	Plane and Spherical Trigonometry	NONE	This course covers trigonometric functions; identities and equations; solutions of triangles; law of sines; law of cosines; inverse trigonometric functions; and spherical trigonometry.
QUAMET1	Quantitative Methods	ALGEBRA	This course covers the basic principles of statistics, presentation and analysis of data, averages, median, mode, deviations, probability distributions, normal curves and applications, regression analysis and correlation and application to engineering problems.
SOLIMEN	Solid Mensuration	ALGEBRA PSTRIGO	This course covers the concept of lines and planes, Cavalieri's and Volume theorems, formulas for areas of plane figures, volumes for solids, volumes and surface areas for spheres, pyramids, and cones, zone, sector and segment of a sphere, and theorems of Pappus.

#### PHYSICAL SCIENCES

COURSE CODE	SUBJECT	PRE-REQUISITE	DESCRIPTION
CHEMENG & CHEMLAB	Chemistry for Engineering Lec	None	At the end of the course, the students should be able to come up with a project that can be completed within the duration of the course that will provide evidence of their subject matter learning as well as provide a benefit to themselves and a participating group or organization.
PHYLEC1 & PHYLAB1	Physics for Engineering 1 Lec	ALGEBRA PSTRIGO	This course covers vectors; kinematics; dynamics; work, energy, and power; impulse and momentum; rotation; dynamics of rotation; elasticity; and oscillation.
PHYLEC2 & PHYLAB2	Physics for Engineering 2 Lec	PHYLEC2 PHYLAB2	This courses covers fluids; thermal expansion and thermal stress; heat transfer; calorimetry; waves; electrostatics; electricity; magnetism; optics; image formation by plane and curved mirrors; and image formation by thin lenses.

### Basic Engineering and Sciences

COURSE CODE	SUBJECT	PRE-REQUISITE	SUBJECT
COMPRG1	Computer Programming 1	ITCONCE	This course covers basic information technology concepts; fundamentals of algorithm development; basic programming using C.
COMPRG2	Computer Programming 2	COMPRRG1	This course covers high-level language and programming applications; and computer solutions of engineering problems.
DEFORMD	Mechanics of Deformable Bodies	MECHAN1	This course covers axial stress and strain; stresses for torsion and bending; combined stresses; beam deflections; indeterminate beams; and elastic instability.
SCHOOL YEAR 2014-2015	Safety Manangement	CHEMENG CHEMLAB	Evolution of safety management; safety terminology; safety programs adopted by high risk industries; hazards in the construction, manufacturing, gas and power plants, and other engineering industries and how to prevent or mitigate them; techniques in hazard identification and analysis in workplaces; off-the-job safety; disaster prevention and mitigation; and incident investigation.
DRAWNG2	Engineering Drawing 2 with CADD	DRAWING1	This course covers 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.
ENGECON	Engineering Economy	3rd Year Standing	This course covers concepts of the time value of money and equivalence; basic economy study methods; decisions under certainty; decisions recognizing risk; and decisions admitting uncertainty.
ENGGMGT	Engineering Management	3rd Year Standing	This course covers decision-making; the functions of management; managing production and service operations; managing the marketing function; and managing the finance function.
ENVENGG	Environmental Engineering	CHEMENG CHEMLAB	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.
EORIENT	Engineering Orientation	None	This course covers discussion about APC's engineering degrees and curriculum; introduction to engineering profession: common traits of good engineers, engineering disciplines; preparation for an engineering career; engineering licensures, certifications and organizations; and introduction to engineering code of ethics
ITCONCE	I.T. Concept	None	A course covers basic theory and concept of Information and Communications Technology.
MECHAN1	Statics of Rigid Bodies	PHYLEC1 PHYLAB2 INCALCU	This course covers force systems; structure analyses; friction; centroids and centers of gravity; and moments of inertia.
MECHAN2	Dynamics of Rigid Bodies	MECHAN1	This course covers kinetics and kinematics of a particle; kinetics and kinematics of rigid bodies; work energy method; and impulse and momentum.
SAFEMAN	Safety Manangement	CHEMENG CHEMLAB	Evolution of safety management; safety terminology; safety programs adopted by high risk industries; hazards in the construction, manufacturing, gas and power plants, and other engineering industries and how to prevent or mitigate them; techniques in hazard identification and analysis in workplaces; off-the-job safety; disaster prevention and mitigation; and incident investigation.

ALLIED SUBJECTS			
COURSE CODE	SUBJECT	PRE-REQUISITE	DESCRIPTION
CIRCKT1 / CIRLAB1	Circuits 1 Lec	PHYLEC2 PHYLAB2	This course covers fundamental relationships in circuit theory, mesh and node equations; resistive networks, network theorems; solutions of network problems using laplace transform; transient analysis; methods of circuit analysis.
CIRCKT2 / CIRLAB2	Circuits 2 Lec	CIRCKT1 CIRLAB1	This course covers complex algebra and phasors; simple AC circuits, impedance and admittance; mesh and node analysis for AC circuits; AC network theorems; power in AC circuits; resonance; three-phase circuits; transformers; two-port network parameters and transfer function.
ELEX1LC / ELEX1LB	Electronic Devices and Circuits Lec	INCALCU PHYLEC2 PHYLAB2	This course covers 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.
ELEX2LC / ELEX2LB	Electronic Circuit Analysis and Design Lec	ELEX1LC ELEX1LB	This course covers 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).
ENTREPS	Technopreneurship	ENGGMNT 4th Year Standing	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.

PROFESSIONAL COURSES			
CORE COURSES			
COURSE CODE	SUBJECT	PRE-REQUISITE	DESCRIPTION
ADVMATH	Advanced Engineering Mathematics	DIFEQUA	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, ztransforms, power series solution of ordinary differential equations, and partial differential equations.
ALCDCOE / LOGLAB2	Advanced Logic Circuit Design Lec	LOGCIST LOGLAB	This course on digital design focuses on different methodologies and styles in hardware modeling with emphasis on the use of hardware description languages (HDLs). It covers very high-speed integrated circuit hardware description language (VHDL) fundamental language concepts and elements and the different levels of descriptions such as behavioral and structural.
COMPARC / COMPARL	Computer Systems Architecture Lec	COSYSOR CORGLAB ALCDCOE LOGLAB2	The course includes the theory and principles of computer design. The focus is on the understanding of the design issues specifically the instruction set architecture and hardware architecture. The students are encourage to have a case study on the existing architectural computer designs in order to fully understand its principles.
COMPFUN	Computer Fundamentals	None	This course deals with basic information technology concepts, introduction to microcomputer systems hardware, operating system and application software. It covers topics on microcomputer installation, servicing and troubleshooting techniques, Local Area Network (LAN) setup and
COMSYST	Principles of Communications	ELEX2LC ELEX2LB CIRCKT2 CIRLAB2	The course includes communication systems; transmission media; spectral analysis of signals; noise and distortion; methods of analog and digital modulation; multiplexing systems; telephony; introduction of information theory.

CONTSYS / CONTLAB	Control Systems Lec	ADVMATH ELEX2LC ELEX2LB CIRCKT2 CIRLAB2	The course includes the control devices, equations of a systems and block diagram of systems.
COSYSOR / CORGLAB	Computer Systems Organization Lec	DASTRAA DASTLAB	The course includes the internal number representation and arithmetic; computer structure and machine language; assembly language concept and assembly language instructions.
CPEMET1	Methods of Research for Computer Engineering 1	ALCDOE LOGLAB2 SYSADLC SYSADLB ERESWRT	This course provides essential ideas, concepts and principles in methods of research, as well as the important skills needed by the researcher in the various techniques and procedures in the correct preparation and presentation of research report. The required output is a design project proposal.
CPEMET2	Methods of Research for Computer Engineering 2	CPEMET1	This course is a continuation of Methods of Research 1 which focuses on project scheduling and management of the approved design proposal.
DASTRAA / DASTLAB	Data Structures and Algorithm Analysis Lec	COMPRG2	The course includes linear data structures such as arrays, stacks, queues, linked-lists; nonlinear data structures such as generalized lists, trees, and graphs; operations on these using algorithms such as insertions, deletions, and traversals.
DATAMNT	Database Management	DASTRAA DASTLAB	The course introduces the concepts and definitions of databases, the database environment, database design, development, database security and implementation as well as data warehouses. Students will have practical and hands-on experience in SQL (structured-query-language), which is generally used in the development of database applications as well as management of databases.
DATCOMM / DATCLAB	Data Communications	COMSYST	The course includes theory and components of data communication systems; data transmission techniques; communication error detection and correction; computer communication interfaces and adapters; telephone system interfaces.
DESPRO1	Design Project 1	CPEMET2 SOFTENG EMICROP EMICLAB	A course in which individuals or small teams use the principle of computer engineering in the design, building and testing and implementation of a computer-based or microcontroller-based system designs. The objective should be the scope of the project proposal in the Methods of Research.
DESPRO2	Design Project 2	DESPRO1	Continuation of Design Project 1 but focuses on design project documentation, project public presentation and exhibition.
DISCRET	Discrete Mathematics	ALGEBRA	This course deals with logic, sets, proofs, growth of functions, theory of numbers, counting techniques, trees and graph theory.
EMICROP / EMICLAB	Microprocessor System Lec	ALCDOE LOGLAB2 COSYSOR CORGLAB	The 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.
ENGLAWS	Engineering Law and Ethics	None	The course includes moral issues and decisions confronting individuals and organizations involved in engineering. This subject will focus on the study the code of ethics, conflict of interest, safety and risk tradeoffs in design, confidentiality, behavior in the work place, intellectual property, patents, trade secrets and contemporary issues in engineering.
FLDTRPS	Seminars and Field Trips	DESPRO1 5th Year Standing	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.



GRAPHD1	Graphical System Design Lab 1	None	This course introduces the LabVIEW environment, its features, dataflow programming, and common LabVIEW architectures. This course is the fastest way to become productive with LabVIEW. It prepares the student to develop test and measurement, data acquisition, instrument control, data logging and measurement analysis applications using LabVIEW. The hands-on format of the course enables student to quickly apply skills learned in the course to your application.
GRAPHD2	Graphical System Design Lab 2	GRAPHD1	This course covers topics that will enable the student to design complete, stand-alone applications with LabVIEW. As an extension of the GRAPHD1 course and introduces to common design techniques for successfully implementing and distributing LabVIEW
LOGCIST / LOGLAB1	Logic Circuits and Switching Theory Lec	ELEX1LC ELEX1LB	The course includes design and analysis of 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.
NETWLEC / NETWLAB	Computer Networking Lec	DATCOMM DATCLAB OPESLEC OPESLAB	The course includes Computer networks and open system standards; transmission media and methods; LAN and WAN technologies; packet forwarding; host-to-host communications; network services; wireless networks; computer network design; network administration, management and security.
OBJECLC / OBJECLB	Object Oriented Programming Lec	DASTRAA DASTLAB	The course introduces object-oriented programming concepts and techniques using an object-oriented programming language (e.g. C++, Java, Python, etc.) It covers the imperative language features of the language in comparison with C and involves the students in graphical user interface development. The course also involves the students in hands-on work using various software tools based upon the latest Software Development Kit (SDK) of the programming language used.
OPESCOE / OPESLAB	Operating Systems for CpE Lec	COSYSOR CORGLAB	The course includes different policies and strategies used by an operating system. Topics include operating systems structures, process management, storage management, file systems and distributed system.
PCBOARD	Printed Circuit Board Prototype and Assembly	None	This course is a skill base training course that will allow student to learn the basics of circuit simulation, PCB lay-outing and actual PCB etching and soldering.
PROFETH	Professional Ethics	None	This course focuses on the study of current ethical standards of business professionals. Participants engage in ethical and legal issues in a variety of settings that they may encounter in the course of their professional careers. Students examine ethical cases and present potential decisions according to ethical decision-making models.
SIGPROC / SIGPLAB	Digital Signal Processing Lec	ADVMATH	The course includes the fundamental concepts and practical application of Digital Signal Processing.
SOFTENG	Software Engineering	SYSADLC SYSADLB	The course includes lifecycle models for software development; software requirements specification; structured analysis and design; software metrics and planning; software testing; reusable software management issues.
SYSADLC / SYSADLB	Systems Analysis and Design Lec	OBJECLB DATAMNT OBJECLC	This course covers the different phases of systems development and engineering with focus on analysis and design. It covers how to handle requirements, architectural design, integration and verification and shall be facilitated thru project-team design approach in accordance with recognized standards. The students will also be introduced to recent work on the complexity of real world systems, with issues such as multi-level systems, and iterative development.

TECHNICAL ELECTIVES			
COURSE CODE	SUBJECT	PRE-REQUISITE	DESCRIPTION
TRA1CPE	Visual Basic Programming	DATAMNT	This course covers programming language, using Visual Basic as a software tool in creating computer solutions and applications that can help solve engineering problems.
TRA2CPE	Java Programming	DATAMNT	This course covers programming language, using JAVA as a software tool, in creating computer solutions and applications that can help solve engineering problems.
TRA3CPE	Online Technology	DATAMNT	The course includes building and management of a data warehouse application in an online environment, with emphasis on data accessibility using different computing devices, from the desktop to mobile.
TRB1CPE	Sensor Technology	ELEX1LB ELEX1LC	This course Introduces the fundamental issues in sensing and various sensor technologies including motion sensors, velocity sensors, GPS sensors, acoustic sensors, light and image sensors, and range sensors. Also demonstrates sensor technologies using a system approach to show how they can be integrated into a complete digital system.
TRB2CPE	Modeling and Simulation	TRB1CPE	This subject provides an introduction to modeling and simulation, covering continuum methods, atomistic and molecular simulation, and quantum mechanics.
TRB3CPE	Robotics	TRB2CPE	This course provides an overview of robot mechanisms, dynamics, and intelligent controls. Topics include planar and spatial kinematics, and motion planning; mechanism design for manipulators and mobile robots, multi-rigid-body dynamics, 3D graphic simulation; control design, actuators, and sensors; wireless networking, task modeling.
TRC1CPE	Emerging Technology	None	This course provides the opportunity for students to identify, research, gain a basic knowledge of, discuss and evaluate IT-related new and emerging technologies and their impact on information systems, business, and society.
TRC2CPE	Principles of Technology and IT acquisition Management	None	This course helps in recognizing the diverse, interrelated, and changing nature in the different disciplines in acquisition management with the use of IT
TRC3CPE	Information Systems and Security Management	None	This course is designed to present the management aspects of security for global information systems.
NON - TECHNICAL COURSES			
SOCIAL SCIENCE			
COURSE CODE	SUBJECT	PRE-REQUISITE	DESCRIPTION
APPROJ1	Application Project 1	None	This course provides the venue for students to develop teamwork, foster thinking and problem solving skills, applying various ways to express ideas and achieve the team's formulated feasible objectives.
BEHASCI	Behavioral Science	None	This course is designed to help students gain an insight into their own psychological processes and those of others. It focuses on man as he acts and interacts with his environment and includes topics such as: theories of human behavior, nature and functions of the organism, human development, perception, learning, memory, intelligence, motivation, personality and social psychology. This will also provide a culminating, integrative experience for the students that will give them an opportunity to demonstrate their mastery of the learning outcomes and practice the skills they learned associated with personal and social adjustments.
ECONTAX	Economics Taxation	None	This course will cover the basic principles of economics. Economics is a social science that studies how humans behave and how this behavior influences the economy. Topics such as supply and demand, profit maximization, inflation, land reform, and taxation policies influencing the Philippine economy.

POLGOVT	Politics and Governance	None	This course provides a basic knowledge and understanding of the Philippine government as a state and of principles and ideals which underline its political form, structure, function and organization; stressing on the permanent framework of a system of government, on how powers and duties of several departments are assigned and to establish certain first principles on which government is founded in the cultivation of a nation.
SOCUVAL	Society and Culture with Values Education	None	This introductory course provides an overview of different substantive areas in sociology to further understand contemporary Philippine society and culture. It engages fundamental sociological concepts, principles and approaches through the critical exploration of social and cultural issues in individual (micro), group, organizational and institutional (mezzo), as well as structural, social and global (macro) contexts. It also includes a review of Filipino traditions and values, as well as a consideration of debates that have developed in relation to the intermingling of personal and social dimensions such as, identity, students' future career, professional practice, as well as social behavior in the workplace. The course explores the connections between critical and analytical arguments, the practice of social inquiry and analysis, and actual applications in personal, organizational and social settings.

#### HUMANITIES

COURSE CODE	SUBJECT	PRE-REQUISITE	DESCRIPTION
ARTAPRE	Art Appreciation	None	A basic course that surveys the development of paintings, sculpture , music , architecture , and literature from ancient to modern times.
PHILMAN	Philosophy of Man	None	This course covers the nature of philosophy and philosophical inquiry; the concept about man and his existence in this world -- his dignity, truth, freedom, justice, love, death in relation with others and God, with emphasis on the Filipino in the context of his culture and society.
WORLLIT	World Literature	None	The course is a study of literary forms or genres, exemplified by selected literary texts by writers from different parts of the world.

#### LANGUAGES

COURSE CODE	SUBJECT	PRE-REQUISITE	DESCRIPTION
EGRAMCM	Grammar Composition	None	This is a preliminary course designed to strengthen grammar skills for effective and clear expression of ideas, emotions and reactions.
EEXWRT	Expository Writing	None	This is an introductory course offering the basic principles and technique of effective expository writing.
ERESWRT	Research Writing	None	This course provides students with the skills needed in conducting a research and documenting its results.
EPUBSP1	Public Speaking 1	None	The course provides instruction on, and basic training in oral communication in English.
EPUBSP2	Public Speaking 2	None	This course provides the venue for the acquisition of linguistic and presentation skills in speech communication.
ETECWRT	Technical Writing	None	This course is designed to develop technical writing skills needed for professional communication and business plans/ strategies. The course will cover the foundations of communication skills, basic mechanics of writing and various types of documents.
WORLLIT	World Literature	None	The course is a study of literary forms or genres, exemplified by selected literary texts by writers from different parts of the world.
FILIONE	Sining ng Pakikipagtalastasan	None	Pagdebelp at pagsasanay sa mahusay na pakikipagtalastasan (pagsalita, pagbasa at pagsulat) sa Wikang Filipino na naka-pokus sa paggamit nito sa larangan ng pangangalakal.
FILITWO	Panitikang Filipino	FILIONE	Isang kurso sa kritikal na pagbabasa at pagpapahalaga sa pag-unlad at paglago ng Literaturang Pilipino mula sa panahon ng pre-kolonyal hanggang sa kasalukuyan.

#### MANDATED COURSE

COURSE CODE	SUBJECT	PRE-REQUISITE	DESCRIPTION
RIZLIFE	Life and Works of Rizal	None	A comprehensive study and analysis of the life and literary works of Jose Rizal with an emphasis on its impact and relevance to the upliftment of present Philippine society.

<b>PHYSICAL EDUCATION</b>			
<b>COURSE CODE</b>	<b>SUBJECT</b>	<b>PRE-REQUISITE</b>	<b>DESCRIPTION</b>
PEDUONE	PE 1	None	This subjects aims to examine student's physical aptitude. This is done by grading the abilities of students while they are performing a series of fitness test. It also aims to develop the physical weaknesses of students by undergoing series of training
PEDUTWO	PE 2	None	A physical education course which is concentrated on modern dancing as a way to coordinate ones movements and as a fun way to be physically fit.
PEDUTRI	PE 3	None	A physical education course which concentrates on dual sports, Martial Arts.
PEDUFOR	PE 4	None	A physical education course which concentrates on Team sports, Basketball for men and Volleyball for women.

<b>NATIONAL SERVICE TRAINING PROGRAM</b>			
<b>COURSE CODE</b>	<b>SUBJECT</b>	<b>PRE-REQUISITE</b>	<b>DESCRIPTION</b>
NATSER1	National Service 1	None	National Service aims to develop camaraderie and fellowship by participating in various socio/ economic/ political events and projects.
NATSER2	National Service 2	NATSER1	National Service aims to develop camaraderie and fellowship by participating in various socio/ economic/ political events and projects.