

SAINT BERNADETTE COLLEGE OF ALABANG

Alabang, Muntinlupa City

COURSE DESCRIPTION

BACHELOR OF SCIENCE IN INFORMATION TECHNOLOGY

CODE	TITLE	DESCRIPTION
ITE 1	Computer Fundamentals	<p>The course covers data processing tools and the fundamental concept of electronic data processing. It deals on the history, classification of computers, capabilities and limitations of computers. It will also introduce the use of operating systems.</p> <p>Pre-requisite: None No. of Units: 3 No. of Hours: Lecture: 1 Laboratory: 2</p>
ITE 2	Fundamentals of IT	<p>Provides students with practical knowledge and skills in common software applications: Presentation Graphics & Desktop Publishing. A fully documented project is required to demonstrate proficiency in any of the application software. Discussion of the concepts and principles of Information Technology is also included.</p> <p>Pre-requisite: None No. of Units: 3 No. of Hours: Lecture: 1 Laboratory: 2</p>
ITE 3	Professional Ethics & Values Education	<p>A course dealing with ethics as the basis for formulating a code of conduct in the business world particularly as this applies to the information technology field. It also includes discussions on the basic concept and rediscovery of the usefulness of the Filipino system values.</p> <p>Pre-requisite: None No. of Units: 3 No. of Hours: Lecture: 3 Laboratory: 0</p>
ITE 4	Fundamentals of Programming	<p>The course includes extensive discussions of problem solving techniques, algorithm design, and program logic formulation. Covered are the fundamental programming principles; including the development analysis and debugging of programs in C language. Topic also include systematic program development, top-down design, program verification and quality assurance and program documentation.</p> <p>Pre-requisite: ITE 1 No. of Units: 3 No. of Hours: Lecture: 1 Laboratory: 2</p>

CODE	TITLE	DESCRIPTION
ITE 5	Presentation Skills in IT	<p>The course analyze and prepare the different types of written communications for computer professionals. Students expected to analyze and prepare the reference manuals, guides, equipment and system specifications, technical proposals and other documents. This course will also train students in making technical and business presentations by using any graphic software and multimedia technology.</p> <p>Pre-requisite: ITE 2 No. of Units: 3 No. of Hours: Lecture: 1 Laboratory: 2</p>
ITE 6	Fundamentals of Problem Solving	<p>This course is focused on problem solving and solution presentation techniques, the new edition of engineering fundamentals. Problem solving has been enhanced by the addition of computer applications that include spreadsheets, mathematical and analysis programs and Visual Basic programming.</p> <p>Pre-requisite: ITE 4 No. of Units: 3 No. of Hours: Lecture: 1 Laboratory: 2</p>
ITE 7	Quality Conciousness, Habits & Processes	<p>This course includes the instruction of quality topics on work patterns, information management process and institutional business processes, a long with internationally accepted standards and guidelines such as ISO 9000, Malcolm Baldrige, Software Engineering Institute, etc. Practical applications and case studies are also included.</p> <p>Pre-requisite: ITE 3 No. of Units: 3 No. of Hours: Lecture: 3 Laboratory: 0</p>
ITE 8	Computer Systems Organization	<p>This course serves as an introduction to basic hardware requirements for building a computer system. Topics include and introduction to assembly language, addressing modes, instruction sets, CPU hardwired and microprogrammed control design, input-output organization, and memory organization. This course also include discussions on current microcomputer design, implementation and maintenance.</p> <p>Pre-requisite: ITE Major 1 No. of Units: 3 No. of Hours: Lecture: 3 Laboratory: 0</p>
ITE 9	Discrete Mathematics	<p>It covers the discussion about the logic, set theory, combinatory and graphs theory.</p> <p>Pre-requisite: Math 4 No. of Units: 3 No. of Hours: Lecture: 3 Laboratory: 0</p>

CODE	TITLE	DESCRIPTION
ITE 10	Internet Technology & Website Development	<p>This course covers the concepts of the Internet. The topics includes internet access (kinds of accounts, types of connection, hardware and software specification and tools used for internet access), internet activity such as E-mail, newsgroups, FTP, Gopher and the World Wide Web, making technical and business home pages, browsing, chatting and surfing the web. Topics also include the design & development of relatively complex websites based on sound system and business principles.</p> <p>Pre-requisite: ITE Major 9 No. of Units: 3 No. of Hours: Lecture: 1 Laboratory: 2</p>
ITE Major 1	Data Structure and Algorithm	<p>Covers the types and hierarchy of data, data structures - array, records, queues, stacks, linked lists, general trees and binary trees. Program implementation is in Delphi or Visual Pascal.</p> <p>Pre-requisite: ITE 1 No. of Units: 3 No. of Hours: Lecture: 1 Laboratory: 2</p>
ITE Major 2	Operating Systems	<p>The course covers an introduction to operating systems with UNIX and LINUX as the central operating systems. Topics include are the basic commands, including the use of the electronic mail system, the ed and vi editors, and basic tools and utilities. Also discussed are the evolution of operating systems and their main features.</p> <p>Pre-requisite: ITE Major 1 No. of Units: 3 No. of Hours: Lecture: 1 Laboratory: 2</p>
ITE Major 3	Systems Analysis and Design	<p>The course is a study of the different phases of information systems development. Discussions will concentrate on the initiation, analysis, design, development, implementation and maintenance of a system and the different tools used in systems analysis and design. This course strikes a balance between the theoretical and applied aspects of system analysis, presenting state of the art systems, procedures, methodology and software. These skill are applied by allowing the students to experience asanalyzing and designing a "live" system for an outside client.</p> <p>Pre-requisite: ITE 6 No. of Units: 3 No. of Hours: Lecture: 2 Laboratory: 1</p>

CODE	TITLE	DESCRIPTION
ITE Major 4	File Organization	<p>This is an introductory course in basic file organization and database systems. It covers the characteristics & uses of peripheral memory devices for sequential, indexed and direct access of file processing. The course also covers techniques like sorting, searching and hashing. The use of tree-structured files and list-structured files and the relation of file management to database management. Other topics include data modeling concept and methods of transforming the model into a database.</p> <p>Pre-requisite: ITE Major 2 No. of Units: 3 No. of Hours: Lecture: 3 Laboratory: 0</p>
ITE Major 5	Database Management Systems	<p>This course covers the different lecture of the relational, hierarchical and network models. Other topics to be covered are the design of databases, analysis of data and the different management issues of security, integrity, concurrency control and recovery. A discussion on distributed database is also included.</p> <p>Pre-requisite: ITE 6 No. of Units: 3 No. of Hours: Lecture: 3 Laboratory: 0</p>
ITE Major 6	Data Communication & Computer Network	<p>The course covers data communication between computer installations of systems. Topics includes data communication fundamentals, asynchronous and synchronous communication, error detection and correction, file transfer protocols, telephone systems interfaces, modems, hardware and software available for data communication, basic network interface components, transmission media, network protocols, groupware, distributed data services applications, programming interfaces, applications software, internetworking devices, selecting, installing, managing using networks, network security and reliability. Novell Netware will also be included.</p> <p>Pre-requisite: ITE 8 No. of Units: 3 No. of Hours: Lecture: 1 Laboratory: 2</p>

CODE	TITLE	DESCRIPTION
ITE Major 7	Computer Architecture & Assembly Language	<p>The course includes a review of number systems, coding and boolean algebra, logic gates, combinational circuits, standard form, minimization, sequential circuits, state and machine equivalence, asynchronous sequential circuits, race conditions, algorithmic state machines, the design of computer digital systems using sequential circuits, and continuation of assembly language programming.</p> <p>Pre-requisite: ITE 8 No. of Units: 3 No. of Hours: Lecture: 1 Laboratory: 2</p>
ITE Major 8	Application Programming Language	<p>The course is designed to allow for a clean and simple descriptions of parallel algorithms and applications, and to be well suited for teaching parallel algorithms. Students successfully completing this subject will be able to understand how computers can be programmed at different level of abstraction using different programming languages, and appreciate the importance of studying the programming language design, and implementation in information technology. Understand how programming language concepts such as data typing, object modelling, naming and binding, expressions, functions and control construct can be combined to enable the problem solving in programming languages.</p> <p>Pre-requisite: ITE Major 3 No. of Units: 3 No. of Hours: Lecture: 1 Laboratory: 2</p>
ITE Major 9	Computer Graphics & Multimedia Systems	<p>Graphics systems software, 2D drawing algorithms, geometrical transformations, surface modelling, 3D viewing. Visible surface delimitation algorithms, illumination and reflection models, shading models for polygons, color theory and ray tracing. Software used includes Flash Macromedia and other latest Computer Graphics Software. Multimedia system is also discussed.</p> <p>Pre-requisite: ITE 5 No. of Units: 3 No. of Hours: Lecture: 1 Laboratory: 2</p>
ITE Major 10	Object Oriented Technology	<p>Provides an in-depth study of the design process & implementation of C++ Programming Language and Java. Covers introduction to information systems and development, system study, tools for determining system requirements, structured analysis development strategy, transition from analysis to design cost-benefit analysis.</p> <p>Pre-requisite: ITE Major 3 No. of Units: 3 No. of Hours: Lecture: 1 Laboratory: 2</p>

CODE	TITLE	DESCRIPTION
ITE Major 11	Accounting for IT	<p>The course is an introduction to the principles of Accounting. Covers the basic parts and entries in a general ledger and journals. Students are expected to be able to accomplish a balanced ledger.</p> <p>Pre-requisite: None No. of Units: 3 No. of Hours: Lecture: 3 Laboratory: 0</p>
ITE Major 12	Information Resource Management	<p>The goal of this course is for the students to provide a conceptual understanding of standard internet technology used today in businesses and networking which enable them to manage an Internet Cafe or networking business. It also covers configuration and management of local area networks.</p> <p>Pre-requisite: ITE 10 No. of Units: 3 No. of Hours: Lecture: 1 Laboratory: 2</p>
Elective 1	Software Engineering	<p>The student should be able to explain the principles of software engineering. Understand the role of the software process. Define the system development life cycles. Explain the stages of common life cycle. Understand the concept of software reuse and software reengineering.</p> <p>Pre-requisite: ITE Major 3 No. of Units: 3 No. of Hours: Lecture: 1 Laboratory: 2</p>
Elective 2	Compiler Design	<p>Includes grammar specification, lexical analysis, parsing techniques, semantic analysis, code generation and optimization, run-time storage administration, error detection and recovery.</p> <p>Pre-requisite: ITE Major 10 No. of Units: 3 No. of Hours: Lecture: 1 Laboratory: 2</p>
Elective 3	Current Trends in IT	<p>The course provides computer information to update the students with new developments and trends in the computer world. Aside from classroom discussions, other activities like seminars and exposure trips will be made to make the course substantial.</p> <p>Pre-requisite: ITE 10 No. of Units: 3 No. of Hours: Lecture: 3 Laboratory: 0</p>
Elective 4	Artificial Intelligence	<p>Basic principles of artificial intelligence, knowledge-based representation, natural language processing, pattern recognition and expert systems.</p> <p>Pre-requisite: Elective 1 No. of Units: 3 No. of Hours: Lecture: 1 Laboratory: 2</p>

CODE	TITLE	DESCRIPTION
Elective 5	Automata & Language Theory	<p>Covers finite state automata and regular expressions, context-free grammars and pushdown automata, and formal grammars. Turing machines and halting problems and non-determinism.</p> <p>Pre-requisite: ITE Major 2 No. of Units: 3 No. of Hours: Lecture: 3 Laboratory: 0</p>
F.E. 1	Financial Systems	<p>The course provides the preparation of computerized payroll system and business transaction process.</p> <p>Pre-requisite: ITE Major 3 No. of Units: 3 No. of Hours: Lecture: 1 Laboratory: 2</p>
F.E. 2	Methods of Research	<p>Covers the principles of research which include the background of the study, review of related literature, methodology and statistical method used. Design of programming language in preparation to their thesis will be developed. The students are expected to prepare a scholarly report as pre-requisite to their thesis.</p> <p>Pre-requisite: ITE 8 No. of Units: 3 No. of Hours: Lecture: 2 Laboratory: 1</p>
F.E. 3	Microcomputer Repair	<p>The course serve as an introduction to the basic hardware requirements for building microcomputers to assembly language, memory addressing modes, instruction sets, CPU and microprogrammed control design, I/O organization and memory organization. It also includes the current microcomputer design, implementation and maintenance (including basis troubleshooting and repairs of PC's and their peripherals).</p> <p>Pre-requisite: ITE Major 7 No. of Units: 3 No. of Hours: Lecture: 1 Laboratory: 2</p>
OJT	On-the-Job Training (150 hours)	<p>Provides students the opportunity to practice all the theories and skills developed in the classroom to the actual world of work through cooperative endeavor with the different computer-based organizations. requires a total of 150 hours of on the job training for the issuance of Certificate for Associate in Computer Technology.</p> <p>Pre-requisite: ITE 6, ITE 8 No. of Units: 3 No. of Hours: Lecture: 1 Laboratory: 2</p>

CODE	TITLE	DESCRIPTION
Prac	Practicum (150 hours)	<p>Provides students the opportunity to practice all the theories and skills developed in the classroom to the actual world of work through cooperative endeavor with the different computer-based organizations. requires a total of 150 hours of on the job training to complete the requirement for BS in Information Technology.</p> <p>Pre-requisite: Thesis No. of Units: 3 No. of Hours: Lecture: 1 Laboratory: 2</p>
Thesis	Software Project Management	<p>A project that aims to develop student's initiative critical thinking and creative ability to develop computer-based information systems. The students will prepare the actual program/software for testing.</p> <p>Pre-requisite: F.E. 2 No. of Units: 3 No. of Hours: Lecture: 1 Laboratory: 2</p>