BACHELOR OF SCIENCE IN COMPUTER SCIENCE (B.S.C.S.)

General Education - A.A. (2y) → B.Sc. Computer Sciences (2y) → M.Sc. Computer Sciences (1.5-2y)

Program Objectives:

The Bachelor of Science in Computer Science (BSCS) program is designed to educate the participants in the concepts and techniques used and applied in the design and development of advanced computer- and software systems. Computer Science knowledge is applied in virtually every professional field or environment, going from business to education, from humanities to social sciences, or from natural sciences to engineering.

The learner in this program obtains the fundamental knowledge of mathematics and physics, common to the core of any Bachelor of Science degree program. Furthermore, the participants adopts a sound foundation in topics surrounding the field of computer science, and develop their knowledge in terms of algorithms, programming languages, operating systems, computer architecture, computer networking, database systems, artificial intelligence, numerical analysis and software engineering techniques. The students select a number of elective courses throughout the program and personally decide on a topic for a practical senior project at the end of the progtram. This allows the participants to customize their program in a direction that most accommodates and meets their personal interest and objectives.

Learning Outcomes:

Upon successful completion of this program, students will be able:

1. *to demonstrate knowledge of a broad range of skills, tools, and mathematical techniques in computer science;*
2. *to analyze problems, and identify and define the computing requirements appropriate to solving them;*
3. *to design, implement and evaluate computer-based systems, processes, components, or programs in a way that they meet the desired requirements and needs;*
4. *to apply mathematical foundations, algorithmic principles, and computer science theory in the modeling and design of computer-based systems while demonstrating comprehension of the tradeoffs involved in design choices;*
5. *to apply design and development principles in the construction of software systems;*
6. *to work effectively and professionally in teams;*
7. *to communicate technical information clearly and effectively, both orally and in writing;*
8. *to analyze and understand the impact which computer science may inflict on individuals, organizations and society, and to deal with such social effects ethically and responsibly;*

Admission Prerequisites:

In order to be admitted into the B.B.A. program a candidate must have achieved one of the following formal educational credentials:

1. High School diploma or G.E.D;
2. Completion of an Associate in Arts or Associate in Science Degree (or equivalent) consisting of 90 quarter units, including the prescribed number of credits in the areas of English (15 quarter credits), Natural Science (5 quarter credits), Mathematics (10 quarter credits), Humanities (10 quarter credits), and Social Science (15 quarter credits).This degree program includes at least 60 quarter credits of study applicable to the General Education Requirement.

If candidates do not possess an Associate's degree or equivalent, they will have to meet or complete the schools requirements for the Associate in Arts degree before starting the Bachelor degree program.

Program Requirements:

One hundred and twenty (180) quarter units are required for graduation. The first part (90 units) of the Bachelor's program is the Associate Degree Program. The student must complete a minimum of 60 units while enrolled at our University. Comprehensive evaluation and counseling are most important at this degree level. Undergraduate students must complete their respective degree programs with a grade point average of C (2.0) or better.

The Bachelor of Science in Computer Sciences (B.S.C.S.) Curriculum:

Core Courses: | Electives: (Select a minimum of 25 credits):

GEE 104: Mathematics III Calculus III (Series) (5)
GEE 106: Physics II with Calculus (Electricity & Magnetism) (5)
CSE 303: Computer Programming I (5)
CSE 304: Computer Laboratory I (5)
CSE 305: Database Management System (5)
CSE 306: System Analysis (5)
CSE 307: Basic Electronics (5)
CSE 308: Digital Design (5)
CSE 310: Automatic Recognition (5)
CSE 312: Microprocessors (5)
CSE 314: Operating Systems I (5)
CSE 315: Directed Study (5)
CSE 573: Data Structures (5)
CSE 578: Systems Programming (5)

CSE 375: Discrete Mathematics (5)
CSE 380: Computer Networks (5)
CSE 385: Object Oriented Programming (5)
CSE 390: Network Security (5)
CSE 401: Decision Making Techniques (5)
CSE 402: Modeling (5)
CSE 403: Management Information Systems (5)
CSE 404: Operation Research (5)
CSE 580: Computer Programming II (5)
CSE 581: Computer Laboratory II (5)
CSE 582: Computer Programming III (5)
CSE 583: Computer Laboratory III (5)

Graduation Assignment:
CSE 316: Project (10)

Additional electives, if needed or so desired, may be selected from bachelor electives in the Business Administration, Human Behavior or Engineering programs, but not previously taken, and as permitted by faculty advisor.