



MASTER OF SCIENCE IN COMPUTER SCIENCES (M.S.C.S.)

General Education - A.A. (2y)

B.Sc. Computer Sciences (2y)

M.Sc. Computer Sciences (1.5-2y)

Program Objectives:

The M.Sc. of Computer Sciences provides students with an opportunity to broaden their base of knowledge and increase their research capabilities in the field of Computer Science. The program is comprehensive, practical and flexible in nature and it offers students a wide range of core and elective courses in their field of interest. Throughout the entire program research and development are integrated which culminates into performing the thesis or a final project, at the end of the program. Participants to the program come from a range of different walks of life and have academic backgrounds in a variety of fields. Generally, the program attracts undergraduates from the field of computer science, mathematics and engineering, but the University also welcomes applicants with less customary academic backgrounds, who seek to accommodate their change of personal or professional goals and objectives, and to build a solid academic background in computer science.

Learning Outcomes:

Upon successful completion of the Master of Science in Computer Sciences program, students will be able:

1. to identify, analyze, and synthesize scholarly literature relating to the field of computer science;
2. to apply knowledge of computing and mathematics appropriate to the discipline of computer science;
3. to design, implement, and evaluate computer-based systems, processes, components, or programs to meet required needs;
4. to analyze problems and effectively and professionally apply computer science concepts, and designs relevant to their solution;
5. to demonstrate knowledge and the practical application of software development tools, software systems, and modern computing platforms;
6. to learn independently and the potential to engage in continuing professional development and academic training;
7. to act autonomously and ethically in the planning and implementing of tasks at a professional level and dealing with complex and unpredictable situations;
8. to communicate complex academic or professional issues clearly to specialist and non-specialist audience;

Admission Prerequisites:

To enter into the Master of Science in Computer Science program, students must have an earned bachelor's degree in computer science or a related field. Prerequisite courses include:

CSE 372: Structure Programming and Design (5)
CSE 373: Computer Hardware and Organization (5)

CSE 374: Probability and Statistics for Computer Science (5)
CSE 375: Discrete Mathematics (5)

Program Requirements:

The M.S.C.S. program requires sixty (60) quarter units beyond the bachelor's degree level. The student must complete a minimum 45 credits while enrolled at Newharbor International University and complete their Master's degree programs with a grade point average of R (3.0) or better.

The Master of Science in Computer Sciences Curriculum:

Core Courses:

GEE 501: Advanced Engineering Mathematics I (5)
GEE 502: Advanced Engineering Mathematics II (5)
CSE 571: Operating System elements (5)
CSE 573: Data Structures (5)
CSE 574: Computer System Architecture (5)

Electives: (Select a minimum of 25 credits):

CSE 570: Data Communication (5)
CSE 572: Advanced Operating System Concepts (5)
CSE 575: Expert Systems (5)
CSE 576: Programming Language Landscape (5)
CSE 577: Software Engineering (5)
CSE 578: Systems Programming (5)
CSE 579: Advanced Programming (5)

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

