# Computer Science (MSc Program)

## Program Objectives and Program (Intended) Learning Outcomes (MSc)

| Program Objectives (PO)<br><br>Students will be able: | Intended Learning outcomes (ILO) | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | A- Knowledge &Understanding | | | B-intellectual Skills | | | C-Practical Skills | | | | D-Transferable Skills & Personal Qualities | | | | |
| | A1 | A2 | A3 | B1 | B2 | B3 | C1 | C2 | C3 | C4 | D1 | D2 | D3 | D4 | D5 |
| **PO1:** Students will be able to demonstrate a broad knowledge of Computer Science which includes data structures, operating systems, computer programming skills, computer organization, algorithm design, and automata theory. | ✓ | | | | ✓ | | ✓ | ✓ | ✓ | ✓ | | ✓ | ✓ | | |
| **PO2:** Students will gain a substantial knowledge of one of the following Computer Science specialties: Database, Networking, Artificial Intelligence, Information Security, and Computer Engineering. | ✓ | | | | ✓ | | ✓ | ✓ | ✓ | ✓ | | ✓ | ✓ | | |
| **PO3**: Students will demonstrate the ability to recognize, design and implement efficient software solutions to problems. | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | | | ✓ | | |
| **PO4**: Students will demonstrate knowledge and understanding of professional ethics and responsible behaviour. | ✓ | ✓ | ✓ | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ |
| **PO5:** Students will demonstrate the ability to communicate effectively and to work as a team. | ✓ | ✓ | ✓ | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ |
| **PO6:** Students will become successful professionals able to gain Employment and/or to be accepted into a Computer Science Ph.D. program | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |

## Intended Learning Outcomes (ILO)

### A-Knowledge & Understanding

Students will be able to:

**A1)** Acquire knowledge of a range of advanced topics in Computer Science beyond undergraduate level and at the forefront of research.
**A2)** Have a knowledge & understanding of research methodology & practice.
**A3)** Understand, apply and develop leading-edge technologies.

### B. Intellectual Skills

Students will be able to:

**B1)** Develop and evaluate original ideas in a research context.
**B2)** Perform problem-solving in academic and industrial environments.
**B3)** Develop original ideas in a research context (synthesis).

### C. Practical Skills

Students will be able to:

**C1)** Develop applications to satisfy given requirements.
**C2)** Organize & pursue a scientific or industrial research project.
**C3)** Use, manipulate and develop large computational systems.
**C4)** Perform independent information acquisition and management.

### D. Transferable Skills and Personal Qualities

Students will be able to:

**D1)** Work and communicate effectively as a team member.
**D2)** Prepare and present seminars to a professional standard.
**D3)** Understand ethical issues related to professional activities.
**D4)** Write thesis and reports to a professional standard.
**D5)** Perform independent and efficient time-management.