

## Software Engineering (MSc Program)

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

| Program Objectives<br>(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 |
| <b>PO1:</b> Students will be able to demonstrate a broad knowledge of Software Engineering which includes software requirement, software design, architecture, construction, testing.        | ✓                                |    |    |                        | ✓  |    | ✓                   | ✓  | ✓  | ✓  |   | ✓  | ✓  |    |    |
| <b>PO2:</b> Students will gain a substantial knowledge of one of the following Software Engineering specialties: software requirement, software design, architecture, construction, testing. | ✓                                |    |    |                        | ✓  |    | ✓                   | ✓  | ✓  | ✓  |   | ✓  | ✓  |    |    |
| <b>PO3:</b> Students will demonstrate the ability to recognize, design and implement efficient software solutions to problems.   | ✓                                | ✓  | ✓  | ✓                      | ✓  | ✓  | ✓                   | ✓  |    |    |   |    | ✓  |    |    |
| <b>PO4:</b> Students will demonstrate knowledge and understanding of professional ethics and responsible behaviour.  | ✓                                | ✓  | ✓  |                        |    |    |                     |    |    |    | ✓   | ✓  | ✓  | ✓  | ✓  |
| <b>PO5:</b> Students will demonstrate the ability to communicate effectively and to work as a team.  | ✓                                | ✓  | ✓  |                        |    |    |                     |    |    |    | ✓   | ✓  | ✓  | ✓  | ✓  |
| <b>PO6:</b> Students will become successful professionals able to gain Employment and/or to be accepted into a Software engineering 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 Software Engineering 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.