

REQUIREMENTS ENGINEERING (SE-C-02)

AIMS:

Software requirement engineering is the science and discipline concerned with establishing and documenting software requirements. It consists of *software requirement elicitation, analysis, specification, verification and management*. On the other hand, system requirements engineering is the science and discipline concerned with analysing and documenting system requirements. It involves transforming an operational need into a system description, system performance parameters and a system configuration. This is accomplished through an iterative process of *analysis, design, trade-off studies and prototyping*.

This module is intended to provide the student with a comprehensive understanding, critical evaluation of requirement engineering both software and system.

LEARNING OUTCOMES:

Upon successful completion of this module, the student will be able to:

- critically evaluate baseline management models;
- critically evaluate fundamentals of requirements engineering;
- appreciate the essential issues of requirement engineering and architecture design;
- perform requirements engineering, including elicitation, analysis, documentation and validation;
- practically implement traceability issues in system requirement engineering;
- critically evaluate the role of tools and methods in requirement engineering.

SYLLABUS CONTENT:

- The requirement environment.
- Requirements characteristics.
- System and system engineering.
- Requirement allocation and/or relationship assignment.
- Requirement versus design implementation.
- Requirement quality.
- Relationships among stakeholders, i.e., users, analysts, non-user customers, sponsors, managements...
- The concept of operations: the bridging from operational requirement to technical specifications
- Techniques for requirement elicitation.
- Requirement engineering with a tool (e.g. ViewPoints) and use cases

PREREQUISITES: None

RECOMMENDED ASSESMENT: Coursework