

RESEARCH METHODS (SE-C-01)

AIMS:

The module will introduce and develop the concepts, organisational structure and deliverables of a research project using qualitative and quantitative methods. To extend to a postgraduate level, the student's appreciation and understanding of how to organise, to plan and 'execute' a technical research project.

LEARNING OUTCOMES:

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

- prepare, plan and monitor-a research project using tools and skills needed for critical evaluation and analyses of project results;
- formulate, plan and communicate a research project;
- select and appreciate the appropriate search methods for collection of information;
- demonstrate knowledge and experience on procedures and methods for structuring, gathering and handling of information and data in a technological environment.

SYLLABUS CONTENT:

- Project approaches: project management, quality management.
- Communication skills: presentation skills, literature search & patents, technical report writing.
- Methods for research: problem analyses and problem solving techniques; methods for structuring a problem; qualitative methods for system/process analyses and performance assessment; quantitative methods for data gathering and data analyses; experiment design and collection of data, performance analyses, variance analyses, statistical quality control, statistical process control; plagiarism and referencing; health and safety aspects of research

PREREQUISITES: None

RECOMMENDED ASSESSMENT: Coursework