

Course Title	Research Methodology			Course Code	BST 32442		
Year	3	Semester	2	Credits	02	Theory (hr)	15
						Practical (hr)	30
						Independent Learning (hr)	05

Aim of the Course:

To provide the basic knowledge on research methodology and skills on formulating a standard research proposal to carry out a scientific research

Intended Learning Outcomes:

After completion of this course, the learner should be able to:

- Identify the basic principles of scientific research and the fundamental concepts of scientific research and the research ethics.
- Identify research problems, both basic and applied.
- Formulate a comprehensive project proposal with all required components to address a problem relevant to the disciplines.
- Produce a written research proposal/report/paper and effectively communicate the outcome of it to the relevant stakeholders.

Course Capsule:

Theory
Introduction to research: definitions, key concepts and characteristics of basic and applied research; Planning a research project: process and control; Problem identification and formulation of research questions and objectives; Review of literature; Research methods for collecting and analyzing data qualitatively and quantitatively; Components of a standard research proposal; Research culture and ethical considerations; Research communication: methods and avenues, scientific writing, preparing research publications, structure of a scientific paper; Publications and patents

Practical
Word usage in scientific writing based on standard research papers; Research proposal formulation – Use of standard research proposal related to bio-system technology/engineering; Research Proposal: Formulating time frame and budget; Technology-based research papers: environment sector; paddy and vegetable sectors; plantation sector; bio-systems; Publishing and Reviewing: What makes a good paper; Publishing and Reviewing: Where to publish; Publishing and Reviewing: The peer review process; Patent Application: The criteria for patentability; Patent Application: The requirements for a patent application

Assessment:

Continuous assessment: 50%
 End semester assessment: 50%