

INSTITUTE	FACULTY OF TECHNOLOGY
PROGRAM	MASTER OF TECHNOLOGY in ELECTRICAL ENGINEERING (Specialization in EV/PEED)
SEMESTER	3
COURSE TITLE	DISSERTATION PHASE-I
COURSE CODE	01EV1301/01PE1301
COURSE CREDITS	10

Course Outcomes: After completion of this course, student will be able to:

- 1 Critically evaluate the existing literature or domain related to the research topic.
- 2 Identify the limitations or gaps in the current body of knowledge within the literature or domain.
- 3 Apply a systematic approach to assess the scope and impact of the identified limitations on the research topic.
- 4 Acquire, Simulate, and Analyze relevant Data for Research Question.
- 5 Assess the System Performance Using Appropriate Techniques.

Pre-requisite of course:NA

Teaching and Examination Scheme

Theory Hours	Tutorial Hours	Practical Hours	ESE	IA	CSE	Viva	Term Work
0	0	20	0	0	0	100	100

Contents : Unit	Topics	Contact Hours
1	Research and Analysis The student is expected to conduct a thorough review of existing literature and research in their chosen area of study. This involves identifying relevant sources, critically evaluating the information, and identifying any gaps or unresolved issues.	40
2	Problem Statement The dissertation should clearly define the research problem or question being addressed. This involves formulating a concise and focused research objective or hypothesis that guides the investigation.	60
3	Methodology The student needs to outline and justify the research methods and approaches used to address the research question. This may involve designing experiments, collecting, and analyzing data, developing mathematical models or simulations, or conducting case studies, among other methodologies.	80

Contents : Unit	Topics	Contact Hours
4	Results and Analysis The dissertation should present the findings of the research in a clear and structured manner. The student needs to analyze and interpret the results and discuss their implications in relation to the research objective or hypothesis.	40
5	Contribution to Knowledge The dissertation should demonstrate an original contribution to the field of engineering. This could be in the form of new theoretical insights, practical applications, technological advancements, or innovative solutions to engineering problems.	20
6	Communication and Presentation A key objective is to effectively communicate the research process, findings, and conclusions. This involves organizing the information in a logical manner, writing a coherent and well-structured document, and presenting the research in a clear and concise manner.	40
Total Hours		280

References:

- 1 Dissertation Writing for Engineers and Scientists, Dissertation Writing for Engineers and Scientists, Mark Breach, Prentice Hall, 2009
- 2 How to Design, Write, and Present a Successful Dissertation Proposal, How to Design, Write, and Present a Successful Dissertation Proposal, Elizabeth A. Wentz, SAGE Publishers, 2013

Suggested Theory Distribution:

The suggested theory distribution as per Bloom's taxonomy is as follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery and evaluation					
Remember / Knowledge	Understand	Apply	Analyze	Evaluate	Higher order Thinking / Creative
0.00	10.00	30.00	25.00	20.00	15.00

Instructional Method:

- 1 Research-Based Learning: It focuses on experiential learning through research. Students actively engage in the research process, taking ownership of their projects and developing essential skills in problem-solving, critical thinking, and data analysis.
- 2 Mentorship and Guidance: A supervisor or committee plays a crucial role in providing mentorship and guidance to the student. They will offer expertise, support, and constructive feedback, helping the student navigate the research process, refine research questions, and ensure scholarly rigor.

Instructional Method:

- 3 Self-Directed Learning: Students are encouraged to be self-directed learners, taking responsibility for their research and demonstrating autonomy in decision-making. They engage in independent literature review, identify research gaps, design methodologies, and make informed choices throughout the research journey..
- 4 Reflective Practice: The reflective practice enable students to reflect on their research progress, identify strengths and weaknesses, and make improvements. Regular self-reflection and evaluation will help students refine their research strategies and enhance the quality of their work.
- 5 Collaboration and Peer Learning: Opportunities for collaboration and peer learning are integrated into the pedagogy. Students can benefit from sharing ideas, discussing challenges, and receiving feedback from their peers, fostering a supportive and intellectually stimulating research community.
- 6 Continuous Feedback and Iterative Process: The pedagogy promotes a continuous feedback loop, where students receive feedback on their work at different stages of the research process. This iterative approach allows for refinement and improvement based on feedback received, enhancing the quality of the dissertation or thesis.
- 7 Ethical Conduct and Research Integrity: Students are expected to adhere to ethical guidelines and principles, ensuring the integrity of their research. The pedagogy emphasizes responsible conduct of research, including obtaining necessary approvals, maintaining confidentiality, and practicing academic integrity.
- 8 Effective Communication: Communication skills are emphasized throughout the pedagogy. Students learn to effectively communicate their research findings through written documents, oral presentations, and discussions. Clear and concise communication is essential to convey complex ideas and contribute to scholarly dialogue.
- 9 Time Management and Planning: It promotes effective time management and planning skills. Students learn to set realistic goals, establish timelines, and manage their research tasks efficiently, ensuring timely progress and completion of their dissertation or thesis.

Supplementary Resources:

- 1 Guidelines for the Preparation of Dissertation Thesis/Project Work, Marwadi University, 2016. (MU/Exam/Notification/2016/11)