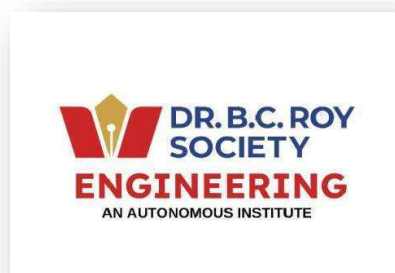
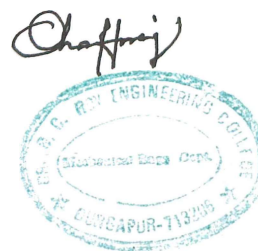


SYLLABUS
for
8th SEMESTER
B.TECH. DEGREE
in
MECHANICAL ENGINEERING

(Applicable from the academic session 2024-2025)



Approved by BOS(ME) dt 18.5.2025
& Academic Council, Agenda 02.04
dt 23.4.2025



Dr. B. C. Roy Engineering College

An Autonomous Institution

Approved by: All India Council for Technical Education (AICTE)

*Affiliated to: Maulana Abul Kalam Azad University of Technology, West
Bengal (Formerly Known as -WBUT)*

Jemua Road, Durgapur, West Bengal, India, 713206

1. Course Prerequisite:

Skills up to the previous semester level in Mechanical Engineering, Programming skill

2. Course Learning Objectives:

It is a research-based project that requires students to apply the knowledge and skills they have acquired during their course-work to a real-world problem or research question. The project and thesis are designed to help students develop their research skills, critical thinking, and problem- solving abilities.

- To apply the knowledge and skills acquired during the coursework to a real-world problem or research question
- To develop research skills, including literature review, research design, data collection, data analysis, and interpretation
- To develop critical thinking and problem-solving abilities
- To produce a high-quality thesis that demonstrates the student's ability to conduct independent research
- To develop communication skills, including written and oral presentation

3. Teaching methodology and evaluation system for the course:

- Regular Meetings: Regular meetings between the student and supervisor to discuss progress, provide feedback, and set goals.
- Progress Reports: The student submits regular progress reports, outlining their progress, challenges, and plans for the next stage of the project.
- Peer Review: The student's work is reviewed by peers, providing feedback and suggestions for improvement.
- Workshops and Seminars: The student participates in workshops and seminars, learning about research methods, academic writing, and presentation skills.
- Online Resources: The student has access to online resources, such as research articles, tutorials, and videos, to support their learning.
- Guest Lectures: Guest lectures from industry experts or researchers, providing insights into real-world applications and current research trends.
- Research Conferences: The student attends research conferences, presenting their research and learning from others in the field.
- Academic Writing Support: The student receives support and guidance on academic writing, including structure, style, and grammar.
- Time Management: The student receives guidance on time management, including setting goals, prioritizing tasks, and managing deadlines.
- Feedback and Evaluation: The student receives regular feedback and evaluation, including constructive criticism and suggestions for improvement.

Total Marks: 100

Passing criteria: 50% and above

- Literature review (10%)
- Research proposal (10%)
- Data collection and data analysis (15%)
- Results and discussion (15%)
- Conclusion and recommendations (10%)
- Thesis writing (20%)
- Thesis defense (20%)

4. Course Content: Course Name: Project-V

Course Code: ME-881

Hours per Week: 0L:0T:24P

Credits: 12

Description	Tentative Timeline(overlapped)
1. Literature Review - Conduct a comprehensive literature review on the research topic - Identify the research gap and formulate a research question - Develop a research proposal	4weeks
2. Research Design - Develop a research design, including data collection and data analysis methods - Identify the sampling strategy and sample size - Develop a data collection plan	4weeks
3. Data Collection - Collect data using the methods identified in the research design - Ensure that the data is accurate, reliable, and valid	8 weeks
4. Data Analysis - Analyze the data using the methods identified in the research design - Identify the trends, patterns, and relationships in the data	8 weeks
5. Results and Discussion - Present the results of the data analysis - Discuss the implications of the findings - Identify the limitations of the study	4 weeks
6. Conclusion and Recommendations - Summarize the main findings of the study - Provide recommendations for future research	2 weeks

-Identify the contributions of the study to the field	
7. Report Writing - Write a high-quality thesis that demonstrates the student's ability to conduct independent research - Ensure that the thesis is well-organized, well- written, and free of errors	12 weeks)
8. Presentation - Defend the thesis in front of a panel of examiners - Answer questions and provide clarification on the research	2 weeks

5. Course Outcomes

Course Outcomes	Details/Statement	Action Verb	Knowledge Level
ME-881.1	Apply knowledge of research methodology to identify a research problem and develop a research proposal	Apply	Apply
ME-881.2	Conduct independent research and collect data	Conduct	Analyze
ME-881.3	Communicate research findings effectively through a thesis	Communicate	Understand
ME-881.4	Apply critical thinking and problem-solving skills To analyze complex data	Apply	Analyze
ME-881.5	Demonstrate expertise in a specialized area of research	Demonstrate	Evaluate
ME-881.6	Integrate knowledge and skills to produce a high-quality thesis that contributes to the body of knowledge	Integrate	Create

6. Mapping of the Course outcomes to Program Outcomes

	PO1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO1 0	PO1 1
CO1	1	1	1	1	1	-	1	3	2	-	1
CO2	1	1	1	2	1	1	1	3	1	1	2
CO3	2	1	1	2	-	1	1	3	1	1	1
CO4	2	1	1	1	1	-	1	3	1	-	2
CO5	1	1	2	1	-	1	1	3	1	-	2
CO6	1	1	1	1	-	-	1	3	1	-	2

7. Mapping to Program Specific Outcome(PSO)

	PSO1	PSO2
CO1	3	2
CO2	3	2
CO3	3	1
CO4	3	1
CO5	3	1
CO6	3	1

End of Syllabus