NIRMA UNIVERSITY

INSTITUTE OF TECHNOLOGY
Teaching & Examination Scheme
Bachelor of Technology (Mechanical Engineering)

Semester-VIII

w. e. f. Academic Year 2025-26

Course Code	Course Title	Teaching Scheme (hours/week)				Examination Scheme			
		L	T	P	C	Duration Hours	Component Weight age		
						SEE	CE	LPW	SEE
	Internship/Research Project	-	-	-	12	-	-	1	-
	Total Credits = 12								

w.e.f. for first year students admitted in 2022-23 and D to D students admitted in 2023-24 onwards.

NIRMA UNIVERSITY

Institute:	Institute of Technology
Name of Programme:	B Tech in Mechanical Engineering
Semester	VIII
Course Code:	
Course Title:	Internship/Research Project
Course Type:	Core
Year of Introduction:	2025-26

L	T	Practical component				C
		LPW	PW	W	S	
-	-	-	-	-	-	12

Internship

Course Learning Outcomes (CLOs):

After successful completion of the course, the student will be able to –

1	identify and outline problem(s) related to industry needs	(BL3)
2	select the appropriate modern tool(s) and technique(s) for problem solving	(BL3)
3	take part in collaborative activities and team work	(BL4)
4	appraise and adapt work culture and processes of the industry	(BL5)
5	value the health, environment, safety and ethical practices	(BL5)
6	compile the technical report and present amongst peers, and faculty/mentors	(BL6)
7	develop life-long learning skills for a productive career.	(BL6)

Contents:

The student will undertake an internship at the industry/organization/site. The internship may be based on understanding the sections/divisions of the industry, exploring various technical processes, tools & techniques, domain knowledge and the corporate work culture. The students are expected to study the technical, commercial, standards, procedures, relevant discipline specific & interdisciplinary concepts. The students are expected to monitor the day-to-day functioning of the industry and make a meaningful contribution for possible improvement in the same if any. Students shall demonstrate adherence to the intellectual property rights, follow ethical and moral practices and abide various policies of the industry. The verbal and non-verbal communications and team playing shall be a desired learning for development of overall persona for the students.

Based on the location of the internship, a faculty guide/mentor will be assigned and will guide the student. The student is required to submit an internship report based on the work carried out and present it to the faculty/mentor and peers.

Research Project

Course Learning Outcomes (CLOs):

After successful completion of the course, the student will be able to –

1	identify the research problem related to industry/ societal need	(BL3)
2	develop research aspects with a comprehensive and systematic approach	(BL3)
3	select the appropriate modern tool(s) and technique(s) for problem solving	(BL3)
4	take part in collaborative activities and team work	(BL4)
5	value the ethical practices during the project	(BL5)
6	perceive the possibility of scalability and scope of intellectual property rights	(BL5)
7	compile and present the research report with effective communication amongst peers, and faculty/mentors.	(BL6)
8	develop life-long learning skills for a productive career	(BL6)

Contents:

The research project will be aligned with the aims of the Engineering programme, its areas of specialization and shall be grooming the student towards inculcating research culture. It may be based on the recent trends in Technology and Engineering, using computational techniques, executing system/process analysis, evaluating construction/fabrication/ production or testing techniques, learning design methodologies, analytical formulation and solution, etc. The student(s) shall carry out a comprehensive research project at relevant Academic / R&D organisation / Industry based on one or more of the following aspects : Process Modification / Development, Simulation, Software Application / Development, Integration of Software and Hardware, Data Analysis, Survey, Analysis, Prototype Design, Product Preparation / Development, Working Model, Fabrication of Set up, Laboratory Experiments, Review of the present literature & offering further insights, research driven solution to industrial problem, design and development of sustainable infrastructure systems, etc.

Based on the location of the project work, a faculty guide/mentor will be assigned and will guide the student towards the defined research problem. The student is required to submit a research project report based on the work carried out and present it to the faculty/mentor and peers. Students be encouraged to submit a manuscript to a leading journal for possible publication and/or a paper presentation in a renowned conference.