

Department of Mechanical Engineering
M. Tech. Industrial Engineering & Management
(IE&M)
INFORMATION BROCHURE



NATIONAL INSTITUTE OF TECHNOLOGY
RAIPUR, INDIA

About The Institution

Till as late as 1956, our Nation had only three technical institutes offering courses in the much needed fields of Mining and Metallurgical Engineering. In view of this fact and also with an aim of harnessing the ample mineral resources of the region, this institute, presently recognized as NIT Raipur, was set-up on 1st May 1956 as Government College of Mining and Metallurgy. The first President of independent India honorable Dr. Rajendra Prasad laid the Foundation stone of the college building on 14th September 1956. The construction work was completed in 1962 and on 14th March 1963, India's first Prime Minister Pt. Jawaharlal Nehru performed the inauguration. The first session of the college commenced from 1st July 1956 with the admission of 15 students each in Mining and Metallurgy Engineering. In 1958-59 with the commencement of additional courses in Civil, Mechanical and Electrical Engineering the college came to be known as Government College of Engineering and Technology. Later graduate courses in Chemical Engineering (1965), Architecture (1984), Electronics (1985), Information Technology, Computer Science and Technology (2000), Biotechnology, Biomedical Engineering (2003) were also started. In view of its great past with 50 years old record of excellence and several strengths, the institute has been declared as National Institute of Technology (NIT) by the Central Government on 1st Dec. 2005.

National Institute of Technology, Raipur (NITRR), hence formed in the year 2006, is an Institute of national importance and presently runs academic courses in 12 disciplines in the form of graduate and post graduate courses. The institute also inducts regular and part-time scholars for PhD courses. In addition to these, the institute intends to provide continuing education in a very broad spectrum keeping in view the needs of industries, academic institutions, research organizations and, last but not the least, the society. The institute is committed to the challenging task of development of technical education by preparing seasoned graduates in highly sophisticated field of engineering and technology. Development of India as an emerging industrial power is a demanding exercise as it involves the combination of cost effectiveness and efficiency along with producing world-class technology at the cutting edge. For about five decades we have been doing it with utmost sincerity and commitment at NIT Raipur.

About Department

Department of Mechanical Engineering, NIT Raipur, offers undergraduate program (B.Tech.) and three Postgraduate programs (M.Tech.). It is one of the largest departments of the institute with intake of 90 students for undergraduate course and (17+13+13=43) students for post graduate course. Department also offers Ph.D. program in all relevant discipline of Mechanical Engineering including Design, Production, Thermal and Industrial Management. The post graduate programs are offered in the following specializations

1. Thermal Engineering
2. Industrial Engineering & Management
3. Machine Design

Vision:

“To produce innovative, entrepreneurial and successful engineers and technologists of high caliber for the nation, to serve as a valuable resource for industry, academia and society”

Mission:

1. To provide the students and the faculty with opportunities to create, interpret, and apply the knowledge in the field of Mechanical Engineering.
2. Provide technological service to local, national, and international communities.

Programme Educational Objectives:

Under the Post-graduate Mechanical Engineering program in Industrial Engineering & Management, the objectives aim to produce qualified Mechanical Engineering Post graduates who will:

1. Possess advanced knowledge and understanding of the specialization thus enabling them to tackle on-field problems, as well as pursue further academic achievements through research.
2. Possess entrepreneurial, managerial, analytical, decision-making, problem solving and communication skills.
3. Conduct themselves in a responsible, professional and ethical manner.
4. Inculcate an attitude for life-long learning process.

Programme Outcome:

The post graduate program in Industrial Engineering & Management has been designed to prepare graduates who will:

1. Possess knowledge of modern managerial and industrial concepts, conduct in depth analysis and studies and apply expertise practically.
2. Work as well as manage multi-disciplinary projects to enhance skills, make effective oral presentations and prepare technical documents effectively.
3. Develop professional and ethical attitude and become socially responsible citizens.
4. Be able to understand global issues and conduct independent research in the emerging areas.

Head of Department

Name	Designation	Educational Qualification	Area of Interest
Dr. R. Salhotra	Professor & HOD	B. E., M.Tech, Ph. D.	Heat Transfer, Thermodynamics, Thermal Engg.

About The Programme

NIT Raipur's Post Graduate M.Tech in Industrial Engineering and Management (M.Tech in IEM) aims to groom young managers who will not only design better procedures and systems but also manage the associated technologies successfully. M.Tech in IEM blends classroomwork and along with research work in form of a yearlong Thesis work. Modeled as a general industrial and management program, it provides a holistic approach towards industries and business, which sets it apart from others post-graduation programs available today.

It's our privilege to present the Post Graduate M.Tech Program in Industrial Engineering and Management. Students of IEM are adaptable to the astute requirements of the global industrial landscape. They are multitalented with a specialized focus on managing businesses in an interconnected global economy.

NIT Raipur IE&M students are good inputs in functional areas of industries requirements, technology management, general management, behavioral sciences, teaching requirements at best Educational Institutions, decision sciences, quantitative techniques, operations and supply chain management. These help them to sharpen their techno – managerial, business and analytical skills. A dedicated Quality Improvement Program (QIP) process through Summer Internship, Field Projects, Industry Interactions, Live Case Studies, Industry Key Note Sessions interspersed with regular lecture and tutorial sessions becomes the hallmark of academic excellence of our Post Graduate M.Tech Program in Industrial Engineering and Management. This is best reflected in greater opportunity and faster upward mobility in their chosen corporate careers of our graduates in Industrial Engineering and Management. A post graduate qualification in Industrial Engineering and Management will certainly provide our students with the cutting edge in managing industries locally and globally.”

FACULTY



Dr. A M Rawani



Dr. N K Jain



Dr. S K Mukti



Dr. A R Singh



Dr. H K Narang



Dr. M S Rajput



Dr. Jagadish

Details of faculties involved with PG Program in Industrial Engineering & Management.

The Mechanical Engineering Department comprises of 22 regular and 7 temporary faculties with different specializations and all contribute to the fruitful conduction of the PG course. Of these, 5 regular faculties, belonging to the Industrial Engineering & Management (IE&M) specialization in a broader sense, are the major contributors. The details of these faculties are as follows:

S. No.	Name	Designation	Educational Qualification	Area of Interest
1	Dr. A M Rawani	Professor & Director	B. E., M.Tech, Ph. D.	Industrial Engg & Management, Strategic Management.
2	Dr. N Jain	Associate Professor	B. E., M. Tech , Ph. D.	Solid Mechanics, Vibration, Machine Design & optimization.
3	Dr. S K Mukti	Assistant Professor	B. E., M. E. Ph. D.	Industrial Engg & Management, Enterprise Resource Planning, Management Information System, Production Technology.
4	Dr. A R Singh	Assistant Professor	B.Tech, M.Tech, Ph. D.	Industrial Engg, Supply Chain Management, Optimization.
5	Dr. H K Narang	Assistant Professor	B.E., M.Tech, Ph. D.	Production Engg, Arc Welding, Composite Material, FEM Modelling, Soft Computing.
6	Dr. M S Rajput	Assistant Professor	B. E., M.Tech, Ph.D.	Advanced Manufacturing Processes, Computer Aided Manufacturing, Rapid Prototyping, Automation & Virtual Instrumentation, Production Management.
7	Dr. Jagadish	Assistant Professor	B. E., M.Tech, Ph.D.	Green Manufacturing, Advanced Manufacturing Process, Composite Material and Characterization, Decision Making Tools, Soft Computing Techniques, Optimization, CAD, Rapid Prototyping, Renewable Energy, Time Series analysis
8	Dr. D. K. Dewangan	Temporary Faculty	B. E., M. Tech., PhD	Optimization Techniques, Supply Chain Management, Manufacturing Strategy, Business Modelling.

M. Tech. in Industrial Engineering and Management

National Institute of Technology Raipur (C.G.)

Department of Mechanical Engineering

Course of Study							M.Tech. First Semester						
S.No.	Board of Studies	Course Code	Course Name	Periods/Week			Examination Scheme					Total Marks	Credit L+(T+P)/2
				L	T	P	TA	FE	SE	ESE	Pract. ESE		
1	Mechanical	ME43111 (ME)	Work Design and Measurement	3	1	-	20	15	15	100	-	150	4
2	Mechanical	ME43112(ME)	Decision Modelling	3	1	-	20	15	15	100	-	150	4
3	Mechanical	ME43113 (ME)	Management Information System	3	1	-	20	15	15	100	-	150	4
4	Mechanical	ME43114 (ME)	Computer Methods for Management	3	1	-	20	15	15	100	-	150	4
5	Mechanical	-----	Elective-I*	3	1	-	20	15	15	100	-	150	4
6	Mechanical	ME43121(ME)	Decision Modelling Lab	-	-	3	75	-	-	-	50	125	2
7	Mechanical	ME43122(ME)	Computer Methods for Management Lab	-	-	3	75	-	-	-	50	125	2
			Total	15	5	6	250	75	75	500	100	1000	24

Elective-I*

S.No.	Course	Code	S.No	Course	Code
1	Production and Operation Management	ME43241(ME)	6	Safety Aspect of Industrial and Manufacturing System	ME43246 (ME)
2	Project Management	ME43242 (ME)	7	Optimization Techniques	ME43247 (ME)
3	Agile Manufacturing	ME43243 (ME)	8	Creative Problem Solving Techniques	ME43248 (ME)
4	Research Methodology	ME43244 (ME)	9	Organisational Theory Design and Development	ME43249 (ME)
5	Statistics for Management	ME43245 (ME)	10	Computer Integrated Manufacturing	ME432410(ME)

M. Tech. in Industrial Engineering and Management

National Institute of Technology Raipur (C.G.)													
Department of Mechanical Engineering													
Course of Study							M.Tech. Second Semester						
S.No.	Board of Studies	Course Code	Course Name	Periods/Week			Examination Scheme					Total Marks	Credit L+(T+P)/2
				L	T	P	TA	FE	SE	ESE	Pract. ESE		
1	Mechanical	ME43211(ME)	Quality Assurance	3	1	-	20	15	15	100	-	150	4
2	Mechanical	ME43212(ME)	Logistics and Supply Chain Management	3	1	-	20	15	15	100	-	150	4
3	Mechanical	ME43213(ME)	Product Development and Management	3	1	-	20	15	15	100	-	150	4
4	Mechanical	ME43214ME	Management and Productivity	3	1	-	20	15	15	100	-	150	4
5	Mechanical	-----	Elective-II**	3	1	-	20	15	15	100	-	150	4
6	Mechanical	ME43221(ME)	Project on Product Development	-	-	3	75	-	-	-	50	125	2
7	Mechanical	ME43222(ME)	Lab (Seminar)***	-	-	3	75	-	-	-	50	125	2
				15	5	6	250	75	75	500	100	1000	24

Elective-II **

S.No.	Course	Code	S.No.	Course	Code
1	Enterprise Resource Planning	ME43231(ME)	6	Human Resource Management	ME43236 (ME)
2	Financial Management	ME43232(ME)	7	Customer Relationship Management	ME43237 (ME)
3	International Business Management	ME43233(ME)	8	E-Commerce Technology and Management	ME43238 (ME)
4	Strategic Management	ME43234 (ME)	9	Database Management System	ME43239 (ME)
5	Security Analysis and Portfolio Management	ME43235 (ME)	10	Decision Support System	ME432310(ME)

***Usually new topics not covered in the syllabus will be given to each student. He/She will be asked to make a presentation in the class in seminar period.

M. Tech. in Industrial Engineering and Management

National Institute of Technology Raipur (C.G.)													
Department of Mechanical Engineering													
Course of Study							M.Tech. Third Semester						
S.No.	Board of Studies	Course Code	Course Name	Periods/Week			Examination Scheme					Total Marks	Credits L+(T+P)/2
				L	T	P	TA	FE	SE	ESE	Pract. ESE		
1	Mechanical	ME43321(ME)	Preliminary Work on Dissertation	-	-	24	100	-	-	-	200	300	12
2	Mechanical	ME43322(ME)	Comprehensive Viva Voce & Seminar	-	-	-		-	-	-	200	200	4
			Total	0	0	24	100	0	0	0	400	500	16

M. Tech. in Industrial Engineering and Management

National Institute of Technology Raipur (C.G.)													
Department of Mechanical Engineering													
Course of Study							M.Tech. Fourth Semester						
S.No.	Board of Studies	Course Code	Course Name	Periods/Week			Examination Scheme					Total Marks	Credit L+(T+P)/2
				L	T	P	TA	FE	SE	ESE	Pract. ESE		
1	Mechanical	ME43421(ME)	Dissertation	-	-	32	200	-	-	-	300	500	16
			Total	0	0	32	200	0	0	0	300	500	16



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To know more about our programs: Visit our website: <http://www.nitrr.ac.in>