MSc. in Mechanical Engineering (Power Section) FALL 2025

Program Outlines

No.	Code	Title	Credit	Hours	Perquisites
Faculty Requirements 9 credits.					
1	GH601	Research Methods and Methodologies	3	3	--------
2	GS610	Advanced Engineering Mathematics	3	3	--------
3	GS620	Advanced Numerical Analysis	3	3	--------
Compulsory Departmental Courses; 12 credits.					
1	ME602	Mathematical Modelling and Analysis	3	3	GS620
2	ME610	Advanced Fluid Mechanics	3	3	GS620
3	ME620	Advanced Thermodynamics	3	3	--------
4	ME621	Advanced Heat &Mass Transfer	3	3	--------
Elective Departmental Courses; a maximum of 12 credits.					
1	ME611	Computational Fluid Dynamics	3	3	GS620, ME610
2	ME613	Aerodynamics	3	3	ME610
3	ME614	Turbulence	3	3	ME610,ME611
4	ME615	Two phase Flow	3	3	M610,ME621
5	ME616	Advanced Internal combustion engines	3	3	ME620,ME621
6	ME624	Advanced Power Planet Engineering	3	3	ME620,ME621
7	ME625	Renewable Energy Systems	3	3	MIE620,ME621
8	ME630	Special Topics in Mechanical Power Engineering	3	3	Depending on topics
M. Sc. Thesis: (6) Credits					
1	GR698	M.Sc. Thesis Proposal	0		--------
2	GR699	M.Sc. Thesis	6		GR698
Total		***At Least 33 Credits***	***(33+ 6)***		

MSc. in Mechanical Engineering (Industrial eng. Section) FALL 2025

Program Outlines

No.	Code	Title	Credit	Hours	Perquisites
Faculty Requirements 9 credits.					
1	GH601	Research Methods and Methodologies	3	3	--------
2	GS610	Advanced Engineering Mathematics	3	3	--------
3	GS620	Advanced Numerical Analysis	3	3	--------
Compulsory Departmental Courses; 12 credits.					
1	ME603	Statistics Applications in Engineering	3	3	--------
2	ME640	Engineering Economy Analysis	3	3	--------
3	ME642	Operations & Production Management	3	3	--------
4	ME644	Advanced Operations Research	3	3	--------
Elective Departmental Courses; a maximum of 12 credits.					
1	ME630	Industrial Systems Simulation	3	3	ME603
2	ME632	Total Quality Management	3	3	ME603,ME642
3	ME636	Lean manufacturing	3	3	ME642
4	ME638	Advanced Management Information System	3	3	ME642
5	ME643	Maintenance Management	3	3	ME640
6	ME647	Supply chain Management	3	3	ME642
7	ME648	Advanced Facility Planning and Layout	3	3	ME642
8	ME641	Special Topics in Industrial Engineering	3	3	Depending on topics
M. Sc. Thesis: (6) Credits					
1	GR698	M.Sc. Thesis Proposal	0		----------
2	GR699	M.Sc. Thesis	6		GR698
Total		***At Least 33 Credits***	***(33+ 6)***		

MSc. in Mechanical Engineering (Manufacturing and Material Section) FALL2025

Program Outlines

No	Code	Title	Credit	Hours	
Faculty Requirements 9 credits.					
1	GH601	Research Methods and Methodologies	3	3	---------
2	GS610	Advanced Engineering Mathematics	3	3	---------
3	GS620	Advanced Numerical analysis	3	3	---------
Compulsory Departmental Courses; 12 credits.					
1	ME650	Advanced Materials Science	3	3	---------
2	ME651	Advanced Mechanics of Materials	3	3	---------
3	ME660	Advanced Manufacturing Processes	3	3	---------
4	ME661	CAD/ CAM Applications	3	3	---------
Elective Departmental Courses; a maximum of 12 credits.					
1	ME652	Advanced Metal Forming	3	3	ME650
2	ME653	Advanced Welding Technology and Weldability	3	3	ME650
3	ME654	Advanced Metal Casting	3	3	ME650
4	ME655	Processing of Composite Materials	3	3	ME650
5	ME657	Finite Element Analysis	3	3	GS620
6	ME664	Corrosion Engineering Science	3	3	ME650
7	ME667	Engineering Structural Integrity	3	3	ME650
8	ME668	Special Topics in Mechanical Engineering	3	3	Depending on topics
M. Sc. Thesis: (6) Credits					
1	GR698	M.Sc. Thesis Proposal	0		
2	GR699	M.Sc. Thesis	6		GR698
Total		***At Least 33 Credits***	***(33+6)***		