

MASTER OF SCIENCE IN MECHANICAL ENGINEERING

Curriculum Structure

The PhD Program (Total 36 Cr Hrs)

Curriculum Components	Total Courses	Total Cr Hrs
Core Courses	5	12
Elective Courses	4	12
Thesis	1	12
Total	10	36

Thesis Requirements

Thesis course	
Course ID	Course Title
MECH 699	Master Thesis

Major Core Courses

Core courses	
Course ID	Course Title
GENG 602	Applied Research Methodology
GENG 606	Graduate Seminar
GENG 603	Advanced Numerical Analysis
GENG 604	Project Management
GENG 605	Applied Statistics Analysis

Major Elective Courses

Elective courses	
Course ID	Course Title
MECH 664	Finite Element Analysis
MECH 665	Advanced Thermodynamics
MECH 669	Solar Energy Utilization
MECH 670	Advanced Finite Element Analysis
MECH 681	Advanced Topics in Mechanical Engineering
MECH 682	Mathematical Analysis of Mech. Engineering Systems
MECH 683	Robotics and Automation Technology
MECH 684	Computational Fluid Dynamics
MECH 685	Advanced Heat Transfer
MECH 686	Advanced Fluid Mechanics
MECH 687	Combustion and Emission
MECH 688	Energy Conversion
MECH 689	Renewable Energy Utilization
MECH 690	Material Selection
MECH 691	Conversation and Recycling of Materials
MECH 692	Product Design
MECH 693	Advanced Corrosion Engineering

Elective courses

Course ID	Course Title
MECH 694	Failure Analysis
MECH 695	Advanced Physical Metallurgy
MECH 696	Fatigue and Fracture of Engineering Materials
MECH 697	Coatings and Surface Engineering
MECH 698	Nanotechnology
MECH 699	Mechanics of Composite

Study Plan

First Year

First Semester (9 Cr Hrs)			
Term	Course #	Course Title	Cr Hrs
Fall	GENG 602	Applied Research Methodology	3
	GENG 603	Advanced Numerical Analysis	3
	GENG 604	Project Management	3
Total			9
Second Semester (9 Cr Hrs)			
Term	Course #	Course Title	Cr Hrs
Spring	GENG 605	Applied Statistics Techniques	3
	GENG 606	Graduate Seminar	0
	MECH XXX	Technical Elective I	3
	MECH XXX	Technical Elective II	3
Total			9

Second Year

Third Semester (9 Cr Hrs)			
Term	Course #	Course Title	Cr Hrs
Fall	MECH XXX	Technical Elective III	3
	MECH 699	Master Thesis	6
Total			9
Fourth Semester (9 Cr Hrs)			
Term	Course #	Course Title	Cr Hrs
Spring	MECH XXX	Technical Elective IV	3
	MECH 699	Master Thesis	6
Total			9

