M.Eng. in Manufacturing Engineering

Master of Engineering in Manufacturing Engineering

Program Components

Two major curricular/program components distinguish the Master of Engineering degree from the Master of Science degree:

1. No professional paper or thesis is required for the M. Eng.

M. Eng. students are likely to either be practicing engineers or continuing students who wish to acquire credits required for professional licensure. In the first case, the students have experience in practical engineering and the concepts involved in a capstone experience. In the latter case, all senior engineering students at Montana State University have completed a senior design project that is of the same depth as most professional papers, and this is also true of practically all accredited undergraduate engineering programs. Eliminating the thesis or professional paper requirement provides students the opportunity for more coursework in an area of interest.

2. The M. Eng. has no comprehensive examination.

Because this is a courses-only degree that requires students to maintain a 3.0 GPA, there will be no further proof of proficiency. The intent is to provide education for practicing professionals. Students will be supervised by an option coordinator, not by a three-member committee typical for M.S. degrees.

General Requirements

- 30 credits total
- At least 21 of the total credits required for degree must be at 5xx level
- 3xx level courses are not allowed
- 4xx level courses may be used (maximum allowed is 9 credits)
- Courses with grades below C cannot be used to satisfy graduation requirements
- Three credits (min.) registration required during term of graduation

(12)

• A maximum of three credits of individual problems courses (592/575/598) are allowed

Course Requirements

Required Courses

-		credits)
The following course	s are required for every MEng-Manufacturing	
Engineering student:		
EMAN 501	Principles of Manufacturing (Theory of Manufacturing Engineering)	3
EMAN 515	(Product and Process Design for Manufacturing)	3
EMAN 540	(Manufacturing Systems Design and Simulation)	3
EMAN 560	(Advanced Manufacturing Applications)	3
Approved Elective Courses:		
Manuacturing Ea	ngineering (only one of these options is	
EMAN 575	(Research or Project/Paper)	
EMAN 592	(Independent Study)	

EMAN 598	(Internship)
Mechanical Engi	ineering Technology:
ETME 410	Computerized Numerical Control and
	Computer-aided Manufacturing Technology
ETME 415	Design for Manufacturing and Tooling
ETME 462	Industrial Processing Automation and Controls
Industrial Engin	eering:
EIND 425	Technology Entrepreneurship
EIND 434	Project Management for Engineers
EIND 442	Facility and Material Handling Systems Design
EIND 458	Production & Engineering Mgmt
EIND 477	Applied Statistical Quality Control
EIND 500	Engineering Organizational Change and Innovation
EIND 509	Systems Simulation
EIND 511	Advanced Human Factors
EIND 513	Human Factors in Complex Systems
EIND 525	Multi-Criteria Decision Making and Optimization
EIND 554	DOE for Engineers
EIND 557	Regression & Multivar Analysis
EIND 558	Manage Forecast & Dec Analysis
EIND 574	Management Engineering Systems
Mechanical Engi	ineering:
EMEC 444	Mech Behavior of Materials
EMEC 462	System Dynamics and Control
EMEC 467	Micro-Electromechanical Systems
Electrical Engine	eering:
EELE 407	Intro To Microfabrication
EELE 408	Photovoltaic Systems
EELE 409	EE Material Science
EELE 422	Intro to Modern Control
EELE 505	MEMS Sensors and Actuators
Materials Engine	eering:
EMAT 462	Manufacturing of Composites
EMAT 463	Composite Materials
EMAI 464	Biomedical Materials Engineering
EMAT 550	Failure of Materials
EMAT 552	Advanced Ceramics
EMAT 500	Advanced Composite Materials
Conoral Erreter	
General Enginee	Advanced Engineering Analysis
EGEN (0)	Advanced Engineering Analysis
EM 560	Finite Flem Analys in Fnor
Chemical Engin	eering
FCHM 451	Chemical Engineering Process Dynamics and
ECHN4510	Control
ECHM 510	Reaction Engineering/Modeling
Computer Scien	
CSCI 441	Computer Graphics
CSCI 446	Artificial Intelligence
USUI 44/	Machine Learning

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CSCI 455	Embedded Systems: Robotics
CSCI 546	Advanced Artificial Intelligence
CSCI 547	Advanced Machine Learning

Total Credits

30