Department of Mechanical Engineering
[기계공학과]

■ Department Introduction [학과소개]

Mechanical Engineering deals with numerous systems and has a variety of important applications such as automobiles, aircraft, ships, home appliances, electronic devices, power plants and so on. The mechanical systems and the fundamental science and technology of mechanical and aerospace engineering have made dramatic advances and high impacts on the global economies and the standard of living. In the track of mechanical and aerospace engineering, students are educated and trained to learn the underlying principles of mechanical and aerospace engineering and to apply the knowledge to real-world examples and case studies hands-on. Disciplines include thermodynamics, fluid mechanics, solid mechanics, dynamics, machine design, advanced materials processing, laser-assisted manufacturing, micro/nano machining, unmanned vehicle control, MEMS, biomedical products, controls and mechatronics, acoustics, tribology and so on.

1. Graduation Requirement [졸업 이수요건]

Major	Program	Course Credit	Research Credit	Total Credits
Mechanical Engineering	Masters Program	At least 18 credits	At least 10 credits	At least 28 credits
	Doctoral Program	At least 18 credits	At least 42 credits	At least 60 credits
	Combined Master's-Doctoral Program	At least 30 credits	At least 30 credits	At least 60 credits

2. Curriculum [기계공학과 교육과정]

Category	Course Code	Classifi-cation	Course Title (Eng.)	Course Title (Kor.)	Cred.-Lect.-Exp.	Pre-requisite
Required	MEN590	Research	The Seminars	세미나	1-1-0	
	MEN690		Master's Research	석사논문연구	1~3	
	MEN890		Doctoral Research	박사논문연구	3~9	
Elective	MEN500	Lecture	Advanced Numerical Methods	수치해석특론	3-3-0	
	MEN501		Continuum Mechanics	연속체역학	3-3-0	
	MEN502		Advanced Mechanical Engineering Analysis	기계공학해석특론	3-3-0	
	MEN510		Advanced Thermodynamics	열역학특론	3-3-0	
	MEN511		Advanced Heat Transfer	열전달특론	3-3-0	
	MEN512		Advanced Combustion	연소특론	3-3-0	
	MEN513		Convection Heat Transfer	대류열전달	3-3-0	MEN310
	MEN520		Advanced Fluid Mechanics	유체역학특론	3-3-0	
	MEN521		Microfluidics and Nanofluidics	미세유체역학	3-3-0	MEN220
	MEN522		Computational Thermofluid Engineering	전산열유체공학	3-3-0	
	MEN525		Turbulence	난류특론	3-3-0	
	MEN526		Experimental Methods in Fluid Mechanics	실험유체역학	3-3-0	
	MEN530		Advanced Solid Mechanics	고체역학특론	3-3-0	
	MEN531		Finite Element Method	유한요소법특론	3-3-0	
	MEN532		Mechanics of Composites	복합재역학특론	3-3-0	MEN432
	MEN533		Analysis and Design of Structures	구조해석 및 설계	3-3-0	
	MEN535		Computational Nanomechanics	전산나노역학	3-3-0	
	MEN540		Advanced MEMS	MEMS특론	3-3-0	
	MEN541		Bio MEMS	바이오MEMS	3-3-0	
	MEN542		Unconventional Nanomanufacturing	비전통적 나노가공기술	3-3-0	
	MEN552		Manufacturing Processes and Systems	생산공정 및 시스템	3-3-0	

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	MEN554		Machine Tool Analysis and Control	공작기계 해석 및 제어	3-3-0	
	MEN556		Laser Material Interaction and Processing I	레이저 재료 상호작용 및 가공 I	3-3-0	
	MEN557		Polymer and Composite Manufacturing	고분자 및 복합재료 제조공정	3-3-0	
	MEN558		Reliability Engineering	신뢰성 공학	3-3-0	
	MEN559		Advanced Additive Manufacturing	고등적층제조	3-3-0	
	MEN570		Advanced Dynamics	동역학특론	3-3-0	
	MEN572		Nonlinear Systems	비선형 시스템	3-3-0	
	MEN573		Advanced Control Systems I	고급제어 I	3-3-0	
	MEN575		Electromechanical dynamics	전자기기 동력학	3-3-0	
	MEN576		Biomechanics of Movement	생체역학	3-3-0	
	MEN577		Optimal State Estimation: Kalman Filter	최적상태추정: 칼만필터	3-3-0	
	MEN601		Introduction to Optimization	최적화개론	3-3-0	
Elective	MEN624	Lecture	Aerosol Technology	에어로졸특론	3-3-0	
	MEN631		Elastic Waves	탄성파특론	3-3-0	
	MEN656		Laser Material Interaction and Processing II	레이저 재료 상호작용 및 가공 II	3-3-0	
	MEN670		Autonomous Unmanned Vehicles	자율무인이동체	3-3-0	MEN577
	MEN741		Bioinspired Technology	생체모사공학	3-3-0	
	MEN742		Bioaerosol Technology	바이오에어로졸	3-3-0	
	MEN755		Net Shape Manufacturing	소성가공	3-3-0	
	MEN773		Advanced Control Systems II	고급제어 II	3-3-0	
	MEN774		System Identification and Adaptive Control	시스템식별 및 적응제어	3-3-0	
	MEN791		Special Topic Ⅰ	기계공학특론 Ⅰ	3-3-0	
	MEN792		Special Topic Ⅱ	기계공학특론 Ⅱ	3-3-0	
	MEN793		Special Topic Ⅲ	기계공학특론 Ⅲ	3-3-0	
	MEN794		Special Topic Ⅳ	기계공학특론 Ⅳ	3-3-0	

Category	Course Code	Classifi -cation	Course Title (Eng.)	Course Title (Kor.)	Cred. -Lect. -Exp.	Pre-requisite
Elective	MEN795	Lecture	Special Topic Ⅴ	기계공학특론 Ⅴ	3-3-0	
	MEN796		Special Topic Ⅵ	기계공학특론 Ⅵ	3-3-0	
	MEN797		Special Topic Ⅶ	기계공학특론 Ⅶ	3-3-0	
	MEN798		Special Topic Ⅷ	기계공학특론 Ⅷ	3-1-4	
	MEN799		Special Topic Ⅸ	기계공학특론 Ⅸ	3-1-4	

1) Rule of Course no.: The second number indicates the characteristics of the subject.
- MEN*0*: Common subjects
- MEN*1*: Thermal engineering
- MEN*2*: Fluid engineering
- MEN*3*: Mechanics
- MEN*4*: Nano / Bio engineering
- MEN*5*, MEN*6*: Design / Manufacturing
- MEN*7*: Dynamics / Control / Robotics

3. Curriculum Change [교육과정 변경사항]

2021	→	2022
MEN521 Micro/Nanofluidics 미세유체역학 [No Prerequisite]		MEN521 Micro/Nanofluidics 미세유체역학 [Prerequisite(선이수): MEN220]
MEN524 Aerosol Technology 에어로졸특론		MEN624 Aerosol Technology 에어로졸특론
MEN576 Biomechanics of Movement for Rehabilitation Robots 생체역학과 재활로봇		MEN576 Biomechanics of Movement 생체역학
〈New〉	→	MEN601 Introduction to Optimization 최적화개론
〈New〉		MEN631 Elastic Waves 탄성파특론
MEN670 Autonomous Unmanned Vehicles 자율무인이동체 [No Prerequisite]		MEN670 Autonomous Unmanned Vehicles 자율무인이동체 [Prerequisite(선이수): MEN557]
〈New〉		MEN742 Bioaerosol Technology 바이오에어로졸