

Graduation Credits of PME Undergraduate Student

(For 2019 Fall Semester)

Mandatory Courses(30 credits)	
College Chinese (2)	Physical Education (0)
English (8)	Student Service (0)
General Education (20)	
Major Requirement(64 credits)	
General Physics B (I), with Labs (4)	
General Physics B (II),with Labs (4)	
PME 4021 Introduction to Modern Physics (3)	
PME 3212 Electromagnetics (3)	
PME 4031 Engineering Optics (3)	
select 2 out of 5 courses (6)	
CHEM1030 General Chemistry I with Labs (4)	
MATH1030/MATH1040 Calculus I,II (6)	
PME 2001/PME 2002 Engineering mathematics I,II(6)	
PME 1018 Programming Design (3)	
PME 1016 Work Shop Practices (1)	
PME 1341/PME 2342 Applied Mechanics I, II (4)	
PME 2350 Mechanics of Materials (3)	
PME 2103/PME 2104 Thermal and fluid Science I, II (6)	
PME 3006 Introduction to Materials Science (3)	
PME 2431 Manufacturing Processes (3)	
PME 3433 Machine Design (3)	
PME 2201 Electric Circuits (3)	
PME 3203 Microelectronics Labs. I (1)	
PME 3011 Solid Mechanics and Nanomaterials Laboratory (1)	
PME 4013 Thermo-fluid and Power System Lab (1)	
PME 4003/ PME 4002 Undergraduate Research I, II (3)	
PME 3201 Electronics I (3)	
PME 1013 Engineering Drawing (2)	
E1001 Introduction to Engineering (2)	

Specialized Programs (15 credits) Minimum credit(s) required 15(select 1 out of 4 programs)	
Electrical and Control	
Required Course(s) for Electrical and Control program: PME 3207 , PME 3208 Control System I, II (6) PME 3202 Electronics II (3)	Undergraduate Elective Course(s) for Electrical and Control program: PME 3205 Electrical Machinery (I) (3) PME 3212 Electromagnetism (3) PME 3209 Logic Design and Applications (3) PME 4209 Introduction to Microcomputer (3) PME 3320 Mechanical Vibrations (3) PME 3005 System Dynamics Analysis (3) PME 4005 Numerical Analysis (3)
	Graduate Elective Course(s) for Electrical and Control program: PME 5201 Linear System Theory (3) PME 5203 Digital Control System (3) PME 6250 Nonlinear Control systems (3) PME 5233 Biomedical Microsystem (3) PME 5260 Robotics (3) PME 5269 Electronic Circuits Analysis (3) PME 5230 Sensing and Actuation in Miniaturized Systems (3) PME 5270 Digital Circuit Analysis and Design (3) PME 5368 Acoustics : theory and application (3) PME 5206 Microphone Array Signal Processing (3)
Micro/ Nano and Solid Mechanics	
Required Course(s) for Micro/Nano and Solid Mechanics program: PME 4352 Introduction to Microelectromechanical Systems (3) PME 3349 Nanotechnology and its applications (3) PME 3320 Mechanical Vibrations (3)	Undergraduate Elective Course(s) for Micro/Nano and Solid Mechanics program: PME 3010 Introduction to Microsystem Technology (I) (3) PME 3310 Advanced Strength of Materials (3) PME 3347 Introduction to Finite Element Methods(3) PME 3436 Opto-Mechatronic Systems Design (3) PME 3346 Introduction to Solid and Nano/Micro

	Mechanics (2) PME 4021 Introduction to Modern Physics (3)
	<i>Graduate Elective Course(s) for Micro/Nano and Solid Mechanics program:</i> PME 5442 Micro and Nano Fabrication Technology (3) PME 5360 Atomistic-Continuum Mechanics (3) ESS 5850 Micro System Design (3) PME 5230 Sensing and Actuation in Miniaturized Systems (3) PME 5341 Nanoengineering (3) PME 5343 Finite Element Methods (3)
Energy Systems	
<i>Required Course(s) for Energy System program:</i> PME 3121 Energy Engineering (3) PME 3113 Advanced Fluid Dynamics (3) PME 3120 Heat and Mass Transfer (3)	<i>Undergraduate Elective Course(s) for Energy System program:</i> PME 4021 Introduction to Modern Physics (3) PME 3007 Linear Algebra (3) PME 4005 Numerical Analysis (3) PME 4141 Air Pollution and It's Control (3) PME 4160 Fuel Cells (3)
	<i>Graduate Elective Course(s) for Precision Machine Design and Intelligent Manufacturing program:</i> PME 5131 Introduction to Combustion (3) PME 5111 Laminar Flow Theory (3) PME 5122 Heat Convection (3) PME 5113 Computational Fluid Dynamics (3) PME 5128 Heat exchangers and System simulation of HVAC (3) PME 5170 Thermo-fluidics in Bio-MEMS (3) PME 5112 Gas Phase Dynamics (3) PME 5123 Cooling Systems for Electronic Equipment (3) PME 5142 Jet Propulsion (3) PME 5103 Advanced Microfluidic System (3)

Precision Machine Design and Intelligent Manufacturing	
Required Course(s) for Precision Machine Design and Intelligent Manufacturing program: PME 3436 Opto-Mechatronic Systems Design (3) PME 4432 Computer Aided Design and Manufacturing (3) PME 4430 Introduction to Artificial Intelligence (3)	Undergraduate Elective Course(s) for Precision Machine Design and Intelligent Manufacturing program: PME 3207 Control System I (3) PME 4031 Engineering Optics (3) PME 3320 Mechanical Vibrations (3) PME 4426 Introduction to Magnetic Devices (3) PME 4352 Introduction to Microelectromechanical Systems (3) PME 3347 Introduction to Finite Element Methods(3) PME 3437 Innovations in Engineering Design (3)
	Graduate Elective Course(s) for Precision Machine Design and Intelligent Manufacturing program: PME 5435 Precision Machine Design I (3) PME 5436 Precision Machine Design (II) (3) PME 5459 Process Diagnosis and Analysis (3) PME 5431 Special Topics in Computer-Aided Manufacturing (3) PME 5442 Micro and Nano Fabrication Technology (3) PME 5452 Evolutionary Computation (3) PME 5256 Special Topics in Mobile Robots and Self-Driving Cars (3) NEMS5101 Microsensor and Microinstrument System (3) PME 5230 Sensing and Actuation in Miniaturized Systems (3) PME 5443 Opto Electronics (3) PME 5441 Design and manufacture of miniaturized systems (3)
Other Elective Courses(20 credits) Any Course other than the ones listed above.	