

# Approved Non-EE Technical Elective Courses

Updated and approved by the EE Curriculum Committee Spring 2019

Course	Units	Description
BMED 410	4	Biomechanics
BMED 420	4	Principles of Biomaterials Design
BMED 425	4	Biomedical Engineering Transport
BMED 430	4	Biomedical Modeling and Simulation
BMED 434	3	Microfabrication
BMED 435	2	Microfabrication Lab
BMED 440	4	Bioelectronics and Instrumentation
BMED 445	4	Biopotential Instrumentation
BUS 311	4	Managing Technology in the International Legal Environment
CHEM 313	5	Survey of Biochemistry and Biotechnology
<b>CPE 333</b>	<b>4</b>	<b>Computer Hardware Architecture and Design</b>
<b>CPE 464</b>	<b>4</b>	<b>Introduction to Computer Networks</b>
CPE 482	4	Advanced Topics in Systems for Computer Engineering
CSC/CPE 315	4	Computer Architecture
<b>CSC/CPE 357</b>	<b>4</b>	<b>Systems Programming</b>
CSC/CPE 416	4	Autonomous Mobile Robotics
CSC/CPE 453	4	Introduction to Operating Systems
CSC/CPE 458	4	Current Topics in Computer Systems
CSC/CPE 464	4	Introduction to Computer Networks
CSC/CPE 471	4	Introduction to Computer Graphics
ECON 330	4	International Trade
ECON 337	4	Money, Banking & Credit
ENVE 331	4	Introduction to Environmental Engineering
IME 301	4	Operations Research I
IME 303	4	Project Organization and Management
<b>IME 305</b>	<b>4</b>	<b>Operations Research II</b>
IME 319	3	Human Factors Engineering
IME 322	2	Leadership and Project Management
IME 326	4	Engineering Test Design and Analysis
IME 401	2	Sales Engineering

Course	Units	Description
IME 427	4	Process Optimization through Designed Experiments
IME 435	3	Reliability Engineering I
IME 457	4	Advanced Electronic Manufacturing
IME 458	4	Microelectronics and Electronics Packaging
MATE 340	4	Electronic Materials Systems
MATE 430	3	Microfabrication
MATE 435	2	Microfabrication Laboratory
MATH 304	4	Vector Analysis
MATH 306	4	Linear Algebra II
MATH 406	4	Linear Algebra III
MATH 408	4	Complex Analysis I
MATH 409	4	Complex Analysis II
MATH 412	4	Introduction to Analysis I
MATH 413	4	Introduction to Analysis II
MATH 414	4	Introduction to Analysis III
MATH 418	4	Partial Differential Equations
MATH 451	4	Numerical Analysis I
MATH 452	4	Numerical Analysis II
MATH 453	4	Numerical Optimization
ME 302	3	Thermodynamics
ME 318	4	Mechanical Vibrations
ME 321	4	Solar Energy
ME 405	4	Mechatronics
ME 415	4	Energy Conversion
ME 423	4	Robotics
ME 450	4	Solar Power Systems
ME 488	4	Wind Energy Engineering
MU 311	4	Sound Design: Technologies
MU 312	4	Sound Design: Recording
MU 411	4	Sound Design: Synthesis
PHYS 302	4	Classical Mechanics I
PHYS 303	3	Classical Mechanics II
PHYS 310	3	Physics of Energy
PHYS 313	3	Introduction to Atmospheric Physics
PHYS <del>347</del> 318	3	Special Theory of Relativity

Course	Units	Description
PHYS 322	3	Vibrations and Waves
PHYS 340	2	Quantum Physics Laboratory I
PHYS 341	2	Quantum Physics Laboratory II
PHYS 342	1	Quantum Physics Laboratory III
PHYS 403	3	Nuclear & Particle Physics
PHYS 405	4	Quantum Mechanics I
PHYS 406	3	Quantum Mechanics II
PHYS 408	4	Electromagnetic Fields & Waves I
PHYS 409	3	Electromagnetic Fields & Waves II
PHYS 412	3	Solid State Physics
PHYS 417	4	Nonlinear Dynamical Systems
PHYS 423	4	Advanced Optics
PHYS 424	3	Theoretical Physics
PHYS 452	1	Solid State Physics Lab
STAT 426	4	Estimation & Sampling Theory
STAT 427	4	Mathematical Statistics

*Table 1: Approved Non-EE Technical Electives*

The following courses have also been approved by the EE Curriculum Committee as Non-EE Technical Electives. However, students can only take these courses for Technical Elective credit if they meet the course prerequisites or obtain instructor approval and permission number to enroll in the courses; AND if they successfully petition for the course to provide Technical Elective degree credit using a "Major/Support Course Substitution Form" (available from the Engineering Advising Center) with approval from the EE Department Chair.

Course	Units	Description	Prerequisites
CSC/CPE 454	4	Implementation of Operating Sys.	CPE 453 > CPE357 > CPE203 > CPE202
ECON 403	4	Industrial Organization	ECON 312 > ECON 311 >ECON 201
ECON 413	4	Labor Economics	ECON 312 > ECON 311 >ECON 201
IME 326	4	Engineering Test Design &Analysis	STAT 321
IME 408	3	Systems Engineering	CSC 232
MATH 414	4	Introduction to Analysis III	MATH 413 > MATH 412 > MATH 306 > MATH 248
MATH 418	4	Partial Differential Equations	MATH 344
ME 318	4	Mechanical Vibrations	ME 326 > ME212, CSC231 > ME211, MATH 344

ME 423	4	Robotics: Fundamentals & Applications	ME 326 > CSC231, ME212 > ME211, ME 422 > ME318
ME 450	4	Solar Thermal Power Systems	ME 350
ME 488	4	Wind Energy Engineering	ME 329 > ME328 > (ME234, CE207, MATE210); ME 347 > (ME236, ME341, ME302)
PHYS 340	2	Quantum Physics Laboratory I	PHYS 206; PHYS 212
PHYS 341	2	Quantum Physics Laboratory II	PHYS 340 > PHYS 206; PHYS 212;
PHYS 342	1	Quantum Physics Laboratory III	PHYS 341 > PHYS 340 > PHYS 206; PHYS 212
STAT 426	4	Estimation and Sampling Theory	STAT 425 > MATH 248
STAT 427	4	Mathematical Statistics	STAT 426 > STAT 425 > MATH 248