

Rice University Department of Electrical and Computer Engineering - MEE Degree Plan

Name (First,Last): <i>Student ID #</i>		Matriculation Term: <i>(semester you began at Rice)</i>	
Full/Part Time:		Specialization Area:	
What is your career objective that is guiding your course selection?			

Core (3 Courses)	Course	Semester	Year	Credit Hours	Grade
<i>Courses must be taken from the list of Core Courses.</i>	1.				
	2.				
	3.				
Specialization (3 Courses)	Course	Semester	Year	Credit Hours	Grade
<i>3 courses must be from 1 specialization area.</i>	1.				
	2.				
	3.				
General MEE (2 Courses)	Course	Semester	Year	Credit Hours	Grade
<i>2 courses from any of the Specialization or Core Courses.</i>	1.				
	2.				
Free Electives (2 Courses)	Course	Semester	Year	Credit Hours	Grade
	1.				
	2.				
Seminar	ELEC 698	Semester	Year	Credit Hours	Grade
<i>ELEC 698 must be taken for each semester in residence at Rice University.</i>	1.				
	2.				
	3.				
Transfer Course	Course Title (Rice Equivalent) & Institution	Semester	Year	Credit Hours	Grade
<i>A maximum of 1 course with a minimum of 3 hours.</i>	1.				

Plan reviewed and approved by: _____

Date: _____

Submit to Norma Santamaria, MEE Program Administrator, **no later than 2 days before the ADD deadline.**

MEE Degree Requirements

The MEE degree plan includes a summary of the MEE student's career objectives along with a listing of coursework taken in previous semesters and proposed for future semesters aimed to further the student's career objectives.

Coursework listed on the MEE degree plan must satisfy the following requirements:

- It must include at least 30 credit hours comprised of 10 courses of at least 3 credit hours each;
- All of the 10 required courses must be 500 level or higher;
- 3 courses must be selected from the list of "MEE Core Courses", and designated as the "Core" courses entries of the MEE Degree Plan;
- 3 courses must be selected from any one of the 5 lists of "MEE Specialization Courses", and designated as the "Specialization" courses entries of the MEE Degree Plan;
- In addition to the 6 designated Core and Specialization Courses, 2 additional courses must be selected from any of the 5 lists of "MEE Specialization Courses", or any of the "MEE Core Courses" and designate as the "General MEE" course entries of the MEE Degree Plan;
- 2 Free Elective courses can be selected from courses qualifying as Free Electives Qualifying Courses¹ and designate as the "Free Electives" course entries of the MEE Degree Plan
- ELEC 698 should be included for each semester for which student is enrolled full-time in the MEE program.

MEE Core Courses

ELEC 526 -- High Performance Computer Architecture
ELEC 533 -- Random Processes
ELEC 537 -- Communication Networks
ELEC 546 -- Introduction to Computer Vision
ELEC 548 -- Neural Signal Processing
ELEC 551 -- Digital Communication

ELEC 553 -- Mobile & Embedded Systems
ELEC 558 -- Digital Signal Processing
ELEC 563 -- Intro to Solid State Physics
ELEC 568 -- Laser Spectroscopy
ELEC 575 -- Learning from Sensor Data
ELEC 584 -- Fundamentals of Neuroengineering

MEE Specialization Courses

Computer Engineering

ELEC 513 Complexity in Modern Systems
ELEC 515 Machine Learning for Resource-Constrained Platforms
ELEC 516 Analog Integrated Circuits
ELEC 517 Microwave Engineering
ELEC 521 Advanced Digital Integrated Circuit Design
ELEC 522 Advanced VLSI Design
ELEC 526 High Performance Computer Architecture
ELEC 527 VLSI Systems Design
ELEC 543 Advanced High-Speed System Design
ELEC 553 Mobile and Embedded System Design and Application
ELEC 554 Computer Systems Architecture

Data Science

ELEC 501 Data Driven Approximation of Dynamical Systems
ELEC 502 Neural Machine Learning I
ELEC 515 Machine Learning for Resource-Constrained Platforms
ELEC 519 Data and Systems
ELEC 531 Statistical Signal Processing
ELEC 533 Introduction to Random Processes and Applications
ELEC 535 Information Theory
ELEC 546 Introduction to Computer Vision
ELEC 558 Digital Signal Processing
ELEC 575 Learning from Sensor Data
ELEC 576 A Practical Introduction to Deep Machine Learning
ELEC 578 Introduction to Machine Learning
ELEC 631 Advanced Topics in Signal Processing

Neuroengineering

- ELEC 502 Neural Machine Learning I
- ELEC 533 Introduction to Random Processes and Applications
- ELEC 548 Machine Learning and Signal Processing for Neuro Engineering
- ELEC 584 Fundamentals of Human Neuroimaging
- ELEC 585 Fundamentals of Medical Imaging I
- ELEC 587 Introduction to Neuroengineering
- ELEC 588 Theoretical Neuroscience I: Biophysical Modeling of Cells and Circuits
- ELEC 589 Neural Computation
- ELEC 680 Nano-Neurotechnology
- NEUR 582 Introduction to Computational Neuroscience

Photonics, Electronics, & Nano-devices

- ELEC 560 Physics of Sensor Materials and Nanosensor Technology
- ELEC 562 Optoelectronic Devices
- ELEC 563 Introduction to Solid State Physics I
- ELEC 566 Nanophotonics and Metamaterials
- ELEC 567 Nano-Optics
- ELEC 568 Laser Spectroscopy
- ELEC 569 Ultrafast Optical Phenomena
- ELEC 571 Imaging at the Nanoscale
- ELEC 603 Topics in Nanophotonics
- ELEC 605 Computational Electrodynamics and Nanophotonics
- ELEC 661 Nanophotonics, Spectroscopy, and Materials for Sustainability

Systems

- ELEC 501 Data Driven Approximation of Dynamical Systems
- ELEC 531 Statistical Signal Processing
- ELEC 533 Introduction to Random Processes and Applications
- ELEC 535 Information Theory
- ELEC 536 Architecture for Wireless Communications
- ELEC 537 Communication Networks
- ELEC 539 Introduction to Communication Networks
- ELEC 542 The Application of Vector Space Methods and Other Advanced Techniques to DSP
- ELEC 543 Advanced High-Speed System Design
- ELEC 546 Introduction to Computer Vision
- ELEC 549 Computational Photography
- ELEC 551 Digital Communication
- ELEC 558 Digital Signal Processing
- ELEC 573 Network Science and Analytics

¹Free Elective Qualifying Courses

Free electives may be fulfilled by any 2 courses (6 credit hours) selected from the following:

- Departmental (ELEC) course offerings taught by ECE faculty;
- Research coursework, such as ELEC 590 or ELEC 591, when either is taken for at least 3 credit hours;
- Any of the following courses: COMP 532, ELEC 512, ELEC 520, ELEC 552, ELEC 556, ELEC 557, ENGI 510, ENGI 528, ENGI 529, ENGI 610, ENGI 615, or NSCI 511; or
- Any other course approved by the student's MEE academic advisor.

Degree Plan Waiver Request (student must check one of the following): **Advisor Signature** _____

- This degree plan satisfies all requirements as defined on page 2, or
- This degree plan requires a waiver. Detail the course number and title and specify which category of course requirement you are requesting that this course fulfill (e.g. Core, or Specialization, or General MEE, or Free Elective).

