Curriculum for students of *Electrical Engineering*

The department of Electrical & Computer Engineering offers graduate programs leading to Master of Science and Doctor of Philosophy degrees. Advanced studies are available in the general areas of Power, Communications, Control, Electronics and Computer.

Electronics Curriculum

1712518	Semiconductor Devices	3
1712519	Quantum Electronics	3
1712524	Design of High Frequency Circuits	3
1712511	Design of Linear Integrated Circuits	3
1712513	Semiconductor Device Fabrication	3
1712522	VLSI Circuit Design	3
1718511	Digital Signal Processing	3
1714511	Power Electronics	3
1712591	Special Topics	3
1712528	CMOS Integrated Circuits Design	3
1732539	VHDL	3
1718574	Optical Communication Systems	3
1718589	Photonics	3

*Successful Completion of at least 24 units of these courses with a specified structure is a requirement for graduation in this field. *

Control Curriculum

1716511	Advanced Engineering Mathematics	3
1718513	Stochastic Process	3
1716524	Multivariable Control Systems	3
1716512	Optimal Control Theory	3
1716519	Digital Control Systems	3
1716521	Nonlinear Control Systems	3
1716532	Adaptive Control	3
1716536	Advanced Industrial Control	3
1716528	Fuzzy Control Systems	3
1716534	Robust Control	3
1716538	Intelligent Instrumentation	3
1716540	Nero Fuzzy Networks & Soft Computing	3

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Communications (Systems) Curriculum

1718513	Stochastic Processes	3
1718518	Advanced Communications Theory	3
1718511	Digital Signal Processing	3
1718515	Information Theory and Coding	3
1718516	Mobile Communications	3
1718520	Adaptive Filters	3
1718512	Channel Coding	3
1732516	Advanced Computer Network	3
1718527	Audio Signal Processing	3
1718529	Digital Image Processing	3

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Communications (Networks) Curriculum

1732516	Advanced Computer Network	3
1718514	Discrete Stochastic Process	3
1718567	Network Management	3
1718571	Network Programming	3
1734535	Network Security	3
1718525	Cryptography	3
1718566	Wireless Communications Networks	3
1718501	Network Lab I	1
1718504	Network Lab II	2
1718573	Switching Systems	3
1718568	Traffic Control in Computer Networks	3
1718576	Optical Networks	3
1718570	Network Performance Evaluation and Modeling	3
1718575	Network Design	3

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Communications (Fields & Waves) Curriculum

1716511	Advanced Engineering Mathematics	3
1718561	Advanced Engineering Electromagnetics	3
1718586	Advanced Antenna	3
1718587	Advanced Microwave	3
1718532	Radar Systems	3
1718574	Optical Communication Systems	3
1718592	Wave Propagation Theory	3
1718595	Numerical Methods in EM	3
1718584	Active Microwave Circuits Design	3
1718585	Electromagnetic Compatibility	3
1718592	Scattering of EM Waves Theory	3

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Power (Systems) Curriculum

1714512	Theory of Electrical Machines	3
1716320	Advanced Control Systems	3
1714511	Power Electronics	3
1714552	Dynamic of Power Systems	3
1714554	Reactive Power Control	3
1714574	Advanced Relay and Protection	3
1714551	Advanced Power System Operation	3
1714571	Transient State Analysis	3
1714556	Power Systems Planning	3

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Power (Machines and Drives) Curriculum

1714512	Theory of Electrical Machines	3
1716320	Advanced Control Systems	3
1714511	Power Electronics	3
1714552	Dynamic of Power Systems	3
1714516	Control of Electrical Drives – 1	3
1714533	Power Supply Design	3
1714523	Finite Elements for Electromagnetic	3

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Artificial Intelligence and Robotics Curriculum

1716511	Advanced Engineering Mathematics	3
1734517	Expert Systems	3
1734529	Artificial Neural Networks	3
1734527	Robotic – 1	3
1734515	Advanced Operation Systems	3
1734519	Machine Learning	3
1734521	Computer Vision	3
1732514	Parallel Processing	3
1734523	Statistical Pattern Recognition	3
1734532	Advanced Algorithms	3
1734531	Evolutionary Computing	3

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Computer System Architecture Curriculum

1732513	Advanced Computer Architecture	3
1732514	Parallel Processing	3
1732516	Advanced Computer Networks	3
1732539	VHDL	3
1732528	Reliable System Design	3
1712522	VLSI	3
1732526	Arithmetic Processors	3
1734515	Advanced Operating Systems	3
1734519	Machine Learning	3
1732591	Special Topics	3

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Software Computer Curriculum

1734515	Advanced Operating Systems	3
1732514	Parallel Processing	3
1716511	Advanced Engineering Mathematics	3
1734533	Advanced Data Bases	3
1732513	Advanced Computer Architecture	3
1734519	Machine Learning	3
1734543	Advanced E – Commerce	3
1734541	Advanced Software Engineering	3
1734545	Data Mining	3

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** Satisfactory enrollment in MS c. Seminar (2 units) and pursuing of individual MS c. Project (6 units) are also integral Components of the MS c. Program. **