

## Communication, Signal Processing and Microwave Track

<b>Core</b> 2 courses	ECE 601 ECE 673 OR ECE 620	Linear Systems Random Signal Analysis Electromagnetic Fields
<b>Professional and Specialization Core Courses</b> 2 courses Firmware Eng track along with ECE 640	ECE 642 ECE 742 ECE 640 ECE 740 ECE 630 ECE 632 ECE 641 ECE 689	Communication Systems I Communication Systems II Digital Signal Processing Advanced Digital Signal Processing Microwave Electronic Systems Antenna Theory Lab for DSP with FPGA Computer Arithmetic Algorithms
<b>Electives</b> 6 courses	ECE 622 ECE 625 ECE 626 ECE 643 ECE 644 ECE 645 ECE 684 ECE 744 ECE 747 ECE 749 ECE 776 ECE 777 ECE 788	Wave Propagation Fiber and Integrated Optics Optoelectronics Digital Image Processing I Wireless Communication Wireless Networks Advanced Microprosser Systems Optimization for Communication Networks Digital Decomposition Techniques Compression in Multimedia Engr Information Theory Statistical Decision Theory in Comm Computational Intelligence
<b>Knowledge Advancement</b> Recommended	ECE 791	Graduate Seminar (for two semesters: Recommended but NOT Required)
<b>Project, Thesis (optional)</b>		
ECE 700	Master's Project in Electrical Engineering (3 Credits)	
ECE 701	Master's Thesis in Electrical Engineering (6 Credits)	
<b>Professional Skills Elective (optional)</b>		
	MGMT 685	Operations Research and Decision Making
You must have two core courses and two track courses to graduate		

## Computer Networking Track

<b>Core</b> 2 courses	ECE 601 ECE 673 OR ECE 620	Linear Systems Random Signal Analysis  Electromagnetic Fields
<b>Professional and Specialization Core Courses</b>  2 courses	ECE 683/CS 652 ECE 783	Computer Network Design and Analysis Computer Communication Networks
<b>Electives</b>  6 courses	ECE 637/CS 656 ECE 638/CS 696 ECE 639 ECE 642 ECE 644 ECE 645 ECE 605 ECE 677 ECE 681 ECE 690 ECE 788 CS 696 CS 610 CS 665 MATH 661	Introduction to Internet Engineering Network Management and Security Principles of Broadband Networks Communication Systems I Wireless Communication Wireless Networks Discrete Event Dynamic Systems Optimization Techniques Broadband Packet Switches Computer Systems Architecture Computational Intelligence Network Management and Security Data Structures and Algorithms Algorithmic Graph Theory Applied Statistics
<b>Knowledge Advancement Recommended</b>	ECE 791	Graduate Seminar (for two semesters: Recommended but NOT Required)
<b>Project, Thesis (optional)</b>		
ECE 700	Master's Project in Internet Engineering (3 Credits)	
ECE 701	Master's Thesis in Internet Engineering (6 Credits)	
<b>Professional Skills Elective (optional)</b>		
	MGMT 685	Operations Research and Decision Making
<b>You must have two core courses and two track courses to graduate</b>		

# MS Electrical Engineering

## Computer Architecture and Systems Track

<b>Core</b> 2 courses	ECE 601 ECE 673 OR ECE 620	Linear Systems Random Signal Analysis Electromagnetic Fields
<b>Professional and Specialization Core Courses</b>  2 courses	ECE 689 ECE 690	Computer Arithmetic Algorithms Computer Systems Architecture
<b>Electives</b>  6 courses	ECE 605 ECE 640 ECE 641 ECE 642 ECE 643 ECE 657 ECE 658 ECE 660 ECE 664 ECE 683 ECE 684 ECE 692 ECE 758 ECE 788 CS 631	Discrete Event Dynamic Systems Digital Signal Processing Lab for DSP with FPGA Communication Systems I Digital Image Processing I Semiconductor Devices VLSI Design I Control Systems I Real-Time Computer Control Systems Computer Network Design and Analysis Advanced Microprocessor Systems Embedded Systems VLSI Design II Computational Intelligence Data Management System
<b>Knowledge Advancement</b> Recommended	ECE 791	Graduate Seminar (for two semesters: Recommended but NOT Required)
<b>Project, Thesis (optional)</b>		
ECE 700	Master's Project in Internet Engineering (3 Credits)	
ECE 701	Master's Thesis in Internet Engineering (6 Credits)	
<b>Professional Skills Elective (optional)</b>		
	MGMT 685	Operations Research and Decision Making
You must have two core courses and two track courses to graduate		

## Electronic and Photonic Devices Track

<b>Core</b> 2 courses	ECE 601 ECE 673 OR ECE 620	Linear Systems Random Signal Analysis  Electromagnetic Fields
<b>Professional and Specialization Core Courses</b> 2 courses	ECE 622 ECE 626 ECE 650 ECE 657 ECE 658 ECE 758	Wave Propagation Optoelectronics Electronic Circuits Semiconductor Devices VLSI Design I VLSI Design II
<b>Electives</b> 6 courses	ECE 605 ECE 618 ECE 625 ECE 630 ECE 642 ECE 659 ECE 660 ECE 683/CS 652 ECE 684 ECE 690 ECE 692 ECE 739 ECE 756 PHYS 682 ECE 788	Discrete Event Dynamic Systems  Fiber and Integrated Optics Microwave Electronic Systems Communication Systems I Fabric. Princ.Elec./Optoelec. Devices Control Systems I Computer Network Design and Analysis Advanced Microprocessor Systems Computer Systems Architecture Embedded Systems Laser Systems Semiconductor Devices II Introduction to MEMS Computational Intelligence
<b>Knowledge Advancement</b> Recommended	ECE 791	Graduate Seminar (for two semesters: Recommended but NOT Required)
<b>Project, Thesis (optional)</b>		
ECE 700	Master's Project in Internet Engineering (3 Credits)	
ECE 701	Master's Thesis in Internet Engineering (6 Credits)	
<b>Professional Skills Elective (optional)</b>		
	MGMT 685	Operations Research and Decision Making
<b>You must have two core courses and two track courses to graduate</b>		

## Intelligent Systems Track

<b>Core</b> 2 courses	ECE 601 ECE 673 OR ECE 620	Linear Systems Random Signal Analysis  Electromagnetic Fields
<b>Professional and Specialization Core Courses</b>  2 courses	ECE 605 ECE 788 ECE 610 ECE 660	Discrete Event Dynamic Systems Computational Intelligence Power System Steady-State Analysis Control Systems I
<b>Electives</b>  6 courses	ECE 611 ECE 613 ECE 616 ECE 617 ECE 618 ECE 637 ECE 640 ECE 661 ECE 664 ECE 666 ECE 684 ECE 692	Transients in Power Systems Protection of Power Systems Power Electronics Economic Control of Interconnected Power Systems Renewable Energy Systems Internet and Higher-Layer Protocols Digital Signal Processing Control Systems Components Real-Time Computer Control Systems Control Systems II Advanced Microprocessor Systems Embedded Systems
	CS 631	Data Management System
<b>Knowledge Advancement Recommended</b>	ECE 791	Graduate Seminar (for two semesters: Recommended but NOT Required)
<b>Project, Thesis (optional)</b>		
ECE 700	Master's Project in Internet Engineering (3 Credits)	
ECE 701	Master's Thesis in Internet Engineering (6 Credits)	
<b>Professional Skills Elective (optional)</b>		
	MGMT 685	Operations Research and Decision Making
You must have two core courses and two track courses to graduate		