

2021-2024
Electrical & Computer Engineering Department
ADVANCE COURSE PLANNING GUIDE



Description	Course	Area	2021-2022			2022-2023			2023-2024		
			Fall	Spring	Summer	Fall	Spring	Summer	Fall	Spring	Summer
Electric Energy Systems											
Renew En Policy	ECE 7000	EES									
Elec. Conversion	ECE 7525	EES									
Intro to Power Elec	ECE 7580	EES									
Renew Energy Sys	ECE 7800	EES									
Elect Machinery	ECE 7805	EES									
Power Sys Modeling	ECE 7810	EES									
Intro to Elec Drives	ECE 7830	EES									
Advanced Power Elec	ECE 8580	EES									
Adv Elec Machines	ECE 8805	EES									
Smart Energy Sys	ECE 8815	EES									
Advanced Electric Drives	ECE 8830	EES									
Electrochem Power Sources	EGR 7850	EES									
Microwave, Antenna, and Photonics											
Intro to Photonics	ECE 8562	MAPS									
RFIC Des	ECE 8566	MAPS									
Mic Th & Tech 1	ECE 8670	MAPS									
Mic Th & Tech 2	ECE 8671	MAPS									
Antenna Th 1	ECE 8675	MAPS									
Antenna Th 2	ECE 8676	MAPS									
Optical Comm	ECE 8760	MAPS									
Signal Processing and Comm											
Applied DSP	ECE 7321	SPC									
Analysis of Biomed Signals	ECE 7251	SPC									
Stat Sig Proc	ECE 8072	SPC									
Comm Sys Eng	ECE 8700	SPC									
Wireless Comm	ECE 8708	SPC									
Radar Sys	ECE 8710	SPC									
5G Wireless Networks	ECE 8720	SPC									
Systems, Dynamics, and Controls											
Control Sys Eng	EGR 8301	SDC									
Digital Control	EGR 8302	SDC									
Nonlinear Control	EGR 8304	SDC									
Sys Identification	EGR 8305	SDC									
Nonlinear Dynamics	EGR 8306	SDC									
Feedforward Control	EGR 8308	SDC									
Machine Learn.for Engrs	EGR 8311	SDC									
Computer Engineering											
Comp Comm Net.	ECE 7428	CpE									
Comp Org & Des	ECE 8405	CpE									
Mob Comp & Wirel. Net	ECE 8408	CpE									
Hardw Sys Des and Mod	ECE 8440	CpE									
Emb Sys Arch	ECE 8448	CpE									
Adv Dig Desw/ FPGA	ECE 8455	CpE									
UNIX & C Prog	ECE 8473	CpE									
Cybersecurity											
Trusted Comp.	ECE 8410	Cyb									
Crypt & Net. Sec.	ECE 8476	Cyb									
Cyb Threats & Def	ECE 8484	Cyb									
ICS Security	ECE 8485	Cyb									
Ethical Hacking	ECE 8486	Cyb									
Sec Risk Assess & Mngm	ECE 8488	Cyb									
Mal Analy & Def	ECE 8489	Cyb									
Blockchain	ECE 8491	Cyb									
Sec Softw Dev	ECE 8492	Cyb									
Legal Asp of Comp Sec	ECE 8494	Cyb									
Cyb. Sec. Behavioral	ECE 8495	Cyb									
Comp Forensic	ECE 8496	Cyb									
Cyberphy Sys Sec	ECE 8498	Cyb									
Math											
Engineering Math	ECE 8001	MATH									
Linear Algebra	MAT 7660	MATH									

COURSE REQUIREMENTS FOR M.S. PROGRAMS

Each M.S. program is 30 credits which consists of core courses, area courses courses may be counted as electives. Students can take classes on a part-time campus.

COMPUTER ENGINEERING

Required Core Courses

- ECE 7428
- ECE 8448
- ECE 8473

CYBERSECURITY

Required Core Courses

- Cryptography & Netwk. Security
- Cybersec. Threats and Defense

ELECTRICAL

Electronic Circuits and Systems

Required Core Courses

- Fund Solid State Electronics
- Intro to Power Electronics
- Electric Energy Systems**
- Required Core Courses**
- Electric Machinery
- Power System Modeling
- Control Systems Engineering

Microwave, Antenna and Photonic Systems

Required Core Courses

- Introduction to Photonics
- Microwave Thry & Tech I
- Micro Thry and Tech II
- Antenna Theory I

Signal Processing and Communications

Required Core Courses

- ECE 8072
- ECE 7231
- ECE 8700

System Dynamics & Control

Required Core Courses

- Control Systems Engineering
- Digital Control

Program Advisor

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