

MASTER OF NETWORK ENGINEERING

The Master of Network Engineering (M.N.E.) is a course-only degree program that prepares students for professional practice in network engineering and information technologies. The M.N.E. is a focused professional master's degree requiring a minimum of 30 credit hours of adviser approved coursework. The program offered by the Department of Electrical and Computer Engineering (ECE) can be completed in one year of full-time study.

The admission requirements for this degree follow the existing admission requirements for master's degree in the ECE department. A person holding a B.S.E.E. or a B.S.C.P.E. degree has the necessary background to undertake the M.N.E. program. A student without adequate background is required to demonstrate proficiency in the following courses:

ECE 211	Circuit Analysis I	3
ECE 213	Circuit Analysis II	4
ECE 308	Signals and Systems	3
MATH 251	Multivariate and Vector Calculus	4
MATH 252	Introduction to Differential Equations	4
MATH 474	Probability and Statistics	3

A student may demonstrate proficiency by successfully completing the courses or by demonstrating satisfactory performance in one or more special examinations administered by the department.

The M.N.E. program of study must include a minimum of 24 credit hours of ECE coursework, 12 credit hours of required core courses, 12 credit hours of M.N.E. elective courses, and six credit hours of adviser-approved elective courses. At least 18 credit hours of the courses must be at the 500-level. A maximum of six credit hours may be taken from ECE 700-level short courses.

Curriculum

Requirement	Credits
Minimum Credits Required	30
Maximum 400-Level Credit	12
Minimum 500-Level Credit	18
Maximum Short Course ECE 700-Level Credit	4
Maximum Transfer Credit	9

Code	Title	Credit Hours
Required Courses		(15-16)
ECE 503	5G Wireless Network	3
ECE 511	Analysis Random Signals	3
ECE 513	Commctn Engrg Fundamentals	3
ECE 541	Comm Netwrks Performance Analy	3
or ECE 543	Computer Network Security	
Select a minimum of one course from the following:		3-4
ECE 407	Intro Comp Ntwks with Lab	3-4
or ECE 408	Intro to Computer Ntwks	
ECE 545	Modern Internet Tech	3
Network Engineering Elective Courses		(12)
Select a minimum of 12 credit hours of 400- and 500-level courses below, approved by the faculty adviser: ¹		12
ECE 403	Digital & Data Comm Systems	3-4
or ECE 405	Digital & Data Comm Syst w/Lab	
ECE 406	Wireless Communications System	3
or ECE 504	Wireless Comm System Design	
ECE 437	Digital Signal Processing I	3-4
or ECE 436	Digital Signal Pcsgi w/Lab	
ECE 442	Internet of Things/Cyber Phys	3
or ECE 510	IoT and Cyber Physical Systems	
ECE 443	Intro Computer Cyber Security	3

or ECE 518	Computer Cyber Security	
ECE 447	AI and Edge Computing	3
or ECE 501	AI and Edge Computing	
ECE 448	Application Software Design	3
or ECE 528	Application Software Design	
ECE 449	Obj-Oriented Prog & Machine Le	3
or ECE 590	Object-Oriented Program & ML	
ECE 485	Computer Organization & Design	3
or ECE 585	Computer Org and Design	
ECE 508	Video Processing & Comm	3
ECE 514	Digital Commctn Principles	3
ECE 515	Modern Digital Communications	3
ECE 516	Coding Distributed Storage Sys	3
ECE 517	Wireless Ntwrk Protocols/Stand	3
ECE 519	Coding Reliable Communications	3
ECE 520	Info Theory and Applications	3
ECE 541	Comm Netwrks Performance Analy	3
ECE 542	Dsgn Optmztn Compt Ntwrks	3
ECE 544	Wireless and Mobile Networks	3
ECE 545	Modern Internet Tech	3
ECE 546	Wireless Network Security	3
ECE 547	Wireless Netwrks Perf Analysis	3
ECE 565	Compt Vision Image Processing	3
ECE 568	Digital Speech Processing	3
ECE 569	Digital Signal Processing II	3
ECE 570	Fiber Optic Communication Syst	3
ECE 583	High Speed Compt Arithmetic	3
ECE 584	VLSI Archs Sgnl Prcs Commctns	3
ECE 586	Hardwr Security & Adv Comp Arc	3

Electives		(3)
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Select three credit hours		
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