

MASTER OF TELECOMMUNICATIONS AND SOFTWARE ENGINEERING

Collaborative program with the Department of Electrical and Computer Engineering

The Master of Telecommunications and Software Engineering (MTSE) is a course-only degree program that prepares students for professional practice in telecommunications and information technologies. The program, jointly offered by the Department of Electrical and Computer Engineering (ECE) and the Department of Computer Science (CS), can be completed in one and one-half years of full-time study.

Admission Requirements

A person holding a bachelor of science or bachelor of engineering degree in electrical engineering, computer engineering, or computer science has the necessary broad background to undertake the MTSE program. Students interested in the MTSE who do not have such a degree should contact the departmental adviser before applying.

Admission to this program requires satisfying admission requirements in both the computer science and electrical and computer engineering departments. A student without adequate background in specific areas is required to demonstrate proficiency in prerequisite courses. Specific proficiency courses will be detailed for each student at the time of admission to the MTSE program. Proficiency in a course may be demonstrated by earning a grade of at least "B" in the course or in a proficiency examination administered by the ECE or the CS departments. Students should contact the departmental adviser for more details on prerequisites and proficiency requirements.

Computer Science Prerequisites		(7)
CS 201	Accelerated Introduction to Computer Science	4
CS 401	Introduction to Advanced Studies I	3
Electrical and Computer Engineering Prerequisites		(14)
ECE 211	Circuit Analysis I	3
ECE 213	Circuit Analysis II	4
ECE 308	Signals and Systems	3
MATH 252	Introduction to Differential Equations	4

Curriculum

The MTSE is a professional master's degree requiring a minimum of 30 credit hours of adviser-approved coursework. The MTSE program of studies must include a minimum of 12 credit hours of ECE coursework and a minimum of 12 credit hours of CS coursework.

Master of Telecommunications and Software Engineering, Computer Science Concentration

Code	Title	Credit Hours
Required Courses		(12)
CS 586	Software Systems Arch	3
CS 587	Software Project Management	3
ECE 513	Commctn Engrg Fundamentals	3
ECE 541	Perform Eval Compt Ntwrk ¹	3
Elective Categories		(9)
Select a minimum of one course from each of the following elective categories:		
Software Engineering		
CS 521	Object-Oriented Analysis/Dsgn	3
CS 537	Software Metric	3
CS 589	Software Testing and Anlys	3
Telecommunication Systems		
CS 544	Computer Ntwrks II: Ntwrk Svc	3
CS 548	High-Speed Networks	3
CS 555	Anlytc Mdls Simul Comp Syst	3
ECE 545	Advanced Computer Networks	3
Telecommunications		
ECE 504	Wireless Comm System Design	3
ECE 515	Modern Digital Communications	3

ECE 519	Coding Reliable Communications	3
Electives		(9)
Select nine credit hours ²		9
Total Credit Hours		30

¹ Can be substituted with ECE 542.

² Elective courses may be chosen from courses listed above, or other courses approved by the MTSE adviser. Students with no background in communications or software should see the Recommended Courses list below.

Recommended Courses

Students with no background in communications or software engineering should consider including in their programs of study:

Code	Title	Credit Hours
CS 450	Operating Systems	3
CS 455	Data Communication	3
CS 487	Software Engineering	3
ECE 403	Digital & Data Comm Systems	3
Other courses that students in this program typically choose from include:		
ECE 437	Digital Signal Processing I	3
ECE 511	Analysis Random Signals	3
ECE 514	Digital Commctn Principles	3
CS 542	Computer Netwrks I:Fundamentals	3