M.S. in Computer Engineering

Admission Requirements

General requirements for admission are described in the Admissions section of the Graduate Catalog. Specific admission requirements for the Master's Program in Electrical Engineering are described below.

1. Undergraduate or graduate degree in Electrical or Computer Engineering or a related field from an ABET accredited institution in the United States, or proof of equivalent education from an international institution.
2. Demonstration of academic achievement and potential as indicated by the results of the Graduate Record Examination (GRE), and upper-level undergraduate and graduate coursework. The GRE requirement is waived for students from UTEP.
3. Three letters of recommendation and any other evidence of background, knowledge, research, or work experience in Electrical and Computer Engineering that may be available.
4. A written statement of intent, describing his/her career goals and describing his/her vision of the path to those goals (including a summary of previous preparation and of his/her expectations from the graduate program).
5. Submission of a CV/resume summarizing, professional and academic experience and any other evidence of background, knowledge, research, or work experience in Electrical or Computer Engineering that may be available.

Depending upon selected areas of concentration and academic background, students may need to complete leveraging undergraduate course work. Conditional admission may be offered to students who do not meet all of the specific criteria for admission but who show promise of success in graduate studies.

The Department will recommend to the Graduate School acceptance, conditional acceptance, or rejection of the application after all required documents have been received and reviewed by the Graduate School.

Degree Requirements

Two options are available for students: Thesis and Non-Thesis (Project or Course Only). Master of Science students are normally admitted into the Non-Thesis Option, but can transfer to the Thesis Option if approved by the student's Thesis Advisor and Graduate Advisor. All students must take at least 21 hours in Electrical Engineering or Computer Engineering courses of which twelve credit hours must be in a concentration area. In addition, the degree plan can include at most, six (6) credit hours of approved senior-level undergraduate coursework, six (6) credit hours of approved coursework in areas outside the Department of Electrical and Computer Engineering, and at most, three (3) credit hours of Individual Studies. Credits in graduate research cannot be used to satisfy course requirements for the Master degree.

Specific Requirements for Thesis Students

Students in the Thesis Option must take 30 credit hours, that include EE 5398 Thesis and EE 5399 Thesis . EE 5399 Thesis must be repeated until the thesis is defended and submitted to the Graduate School for approval. The thesis courses cannot be counted towards requirements in the Non Thesis Option.

Specific Requirements for Non-Thesis Students

Students in the Non-Thesis Project Option must take 33 credit hours approved by the Graduate Advisor, which include EE 5396 Graduate Projects Graduate Projects and, if approved by the project instructor, EE 5397 Graduate Projects. A written report must be submitted to the supervising project instructor. The project courses cannot be counted towards requirements in the Thesis Option or the Non-Thesis Course-Only Option.

Students in the Non-Thesis Course-Only Option must take 36 credit hours of course work approved by the Graduate Advisor.

Degree Requirements Summary

Types of Credit Hours	Thesis Option	Non-Thesis Option Project	Non-Thesis Option Course Only
Core	12	12	12
Graduate ECE Electives*	9	12	18
Thesis	6	0	0
Project	0	3	0
Graduate Electives**	3	6	6

*At most, six (6) credit hours of approved senior-level undergraduate coursework, and, at most, three (3) credit hours of individual Studies can be included in the degree plan.

**At most six (6) hours of approved coursework in areas outside the Department of Electrical and Computer Engineering, depending on the option, can be included in the degree plan. ECE Department courses can be used to satisfy the Graduate Electives requirement.

All courses listed in the degree plan require a grade of C or better for successful completion. A minimum GPA of 3.0 is required for graduation.

Degree Plan

Required Credits: 30-33

Code	Title	Hours
MS in Computer Engineering		
All courses listed within this degree area require a grade of C or better for successful completion. A minimum GPA of 3.0 is required for graduation.		
Core Courses		**12**
Select twelve credit hours of graduate core computer engineering courses. The list of core courses is available from the Graduate Advisor.		
Major Electives		
Select nine hours of graduate EE		9
Select one of the options:		
Thesis/Non-Thesis Option		6-12
Select three additional hours of graduate courses		**3**
Total Hours		**30-36**

Thesis Option

Code	Title	Hours
All courses listed below are required:		
EE 5398	Thesis	3
EE 5399	Thesis	3

Non-Thesis Project Option

Code	Title	Hours
All courses below are required:		
EE 5396	Graduate Projects	3
Six additional graduate credit hours of graduate courses beginning with EE		6

Non-Thesis Course-Only Option

Code	Title	Hours
Twelve additional graduate credit hours of graduate courses in EE		12

Graduate EE Courses

Code	Title	Hours
EE 5118	Laboratory for EE 5318	1
EE 5191	Individual Studies	1
EE 5300	Probability & Random Processes	3
EE 5301	Computational Methods for EE	3
EE 5302	Linear Systems Analysis	3
EE 5306	Antenna Theory	3
EE 5311	Semiconductor Device Physics	3
EE 5312	Advanced Optoelectronic Device	3
EE 5313	Modern Semiconductor Devices	3
EE 5318	Electronic Material Processing	3
EE 5320	Nanoelectronics	3
EE 5323	Adv Digital Communications	3
EE 5324	Stat Infer for Signal Analysis	3
EE 5325	Telemedicine & Imaging Informa	3

EE 5326	BME Dev Design & Regulation	3
EE 5330	Data Communications	3
EE 5333	Data Compression	3
EE 5336	Adv Fiber Optic Communications	3
EE 5341	Systems Engineering Fundamtls	3
EE 5342	Systems Engineering Mgmt	3
EE 5343	Requirements Engineering	3
EE 5344	Integratn, Verifictn, Validatn	3
EE 5345	Practicum in Elect & Comp Eng	3
EE 5352	Med Diag & Theraptc Instrmtn	3
EE 5353	Biomed Signal & Image Process	3
EE 5357	Biomechatronics	3
EE 5360	Computer Vision	3
EE 5366	Fuzzy Logic & Engineering	3
EE 5369	CMOS Digital Circuit Design	3
EE 5370	Operating Systems	3
EE 5371	Digital Signal Processing	3
EE 5372	Image Processing	3
EE 5376	Computer Architecture I	3
EE 5378	Advanced VLSI Design	3
EE 5379	Network Protocols	3
EE 5380	Energy Sustainability	3
EE 5383	Smart Grid Fundamentals	3
EE 5384	Control of Electric Power	3
EE 5386	High Frequency Power Converter	3
EE 5388	Power System Operations	3
EE 5389	Radar Signal Processing	3
EE 5390	Special Topics Electrical Engr	3
EE 5391	Individual Studies	3
EE 5392	Research Methods	3
EE 5394	Graduate Research	3
EE 5396	Graduate Projects	3
EE 5397	Graduate Projects	3
EE 6194	Graduate Research	1
EE 6195	Doctoral Seminar	1
EE 6294	Graduate Research	2
EE 6390	Special Topics	3
EE 6391	Individual Studies	3
EE 6392	Research Methods	3
EE 6394	Graduate Research	3
EE 6398	Dissertation	3
EE 6399	Dissertation	3
EE 6594	Graduate Research	5
EE 6694	Graduate Research	6

.