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.
6. Applicants from countries where English is not the first language are required to demonstrate English proficiency. Please consult the graduate school (http://catalog.utep.edu/admissions/graduate/graduate-student/) website for required scores.

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 ECE 5398 Thesis and ECE 5399 Thesis . ECE 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 ECE 5396 Graduate Projects Graduate Projects and, if approved by the project instructor, ECE 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 ECE		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:		
ECE 5398	Thesis	3
ECE 5399	Thesis	3

Non-Thesis Project Option

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

Non-Thesis Course-Only Option

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

Graduate ECE Courses

Code	Title	Hours
ECE 5141	Laboratory for ECE 5341	1
ECE 5191	Individual Studies	1
ECE 5300	Probability & Random Processes	3
ECE 5301	Computational Methods for EE	3
ECE 5380	Linear Systems Analysis	3
ECE 5321	Antenna Theory	3
ECE 5340	Semiconductor Device Physics	3
ECE 5344	Advanced Optoelectronic Device	3
ECE 5342	Modern Semiconductor Devices	3
ECE 5341	Electronic Material Processing	3
ECE 5343	Nanoelectronics	3
ECE 5335	Adv Digital Communications	3

ECE 5336	Stat Infer for Signal Analysis	3
EE 5325		3
EE 5326		3
ECE 5371	Data Communications	3
EE 5333		3
ECE 5322	Adv Fiber Optic Communications	3
ECE 5381	Systems Engineering Fundamtls	3
EE 5342	Systems Engineering Mgmt	3
EE 5343	Requirements Engineering	3
EE 5344	Integratn, Verifictn, Validatn	3
ECE 5395	Practicum in Elect & Comp Eng	3
EE 5352		3
ECE 5332	Biomed Signal & Image Process	3
EE 5357		3
ECE 5362	Computer Vision	3
ECE 5361	Fuzzy Logic & Engineering	3
EE 5369		3
ECE 5350	Operating Systems	3
ECE 5330	Digital Signal Processing	3
ECE 5331	Image Processing	3
ECE 5352	Computer Architecture I	3
ECE 5355	Advanced VLSI Design	3
ECE 5372	Network Protocols	3
ECE 5312	Energy Sustainability	3
ECE 5311	Smart Grid Fundamentals	3
ECE 5313	Advanced Trans Power Flow Cont	3
EE 5386		3
ECE 5310	Power System Operations	3
ECE 5323	Radar Signal Processing	3
ECE 5390	Special Topics Electrical Engr	3
ECE 5391	Individual Studies	3
ECE 5392	Research Methods	3
EE 5394	Graduate Research	3
ECE 5396	Graduate Projects	3
ECE 5397	Graduate Projects	3