

Specialization Area	Background Content
Biomedical	EE415, EE416, EE430
Circuits and systems	
Computer	EE441, EE445, EE447
Control theory	EE402, EE406, EE430
Electrical Machines and Power Electronics	EE462, EE463, EE464
Electromagnetics, Antennas and Microwaves	EE426, EE427
Electronics	EE413, EE419
Power systems	EE471, EE472
Robotics	EE302, EE430
Signal Processing	EE430
Telecommunications	EE435, EE436

Biomedical

EE 501 is strongly recommended.

Note: EE 415, EE 416 and EE430 are the core courses for the undergraduate biomedical option, and students are strongly advised to take these courses during their undergraduate education. If they have not taken these courses before they start their graduate studies, following rules apply:

M.Sc. / Ph.D. on B.Sc.:

- If none of the EE 415, EE 416 and EE 430 courses has been taken, the student attends a mandatory one semester Academic Deficiency Program in which he/she takes the EE 430 course. EE 415 and EE 416 courses are taken during the M.Sc. / Ph.D. on B.Sc. program.
- If only one or two of these courses are missing, these missing courses are taken during the M.Sc. / Ph.D. on B.Sc. program.

Ph.D.:

- If EE 415, EE 416 and EE 430 courses have not been taken before during the undergraduate or graduate programs, the student attends a mandatory one or two semester Academic Deficiency Program in which he/she takes these missing courses.

Computer

Computer Option Admission Criteria:

A student should have taken courses covering the following topics to be eligible for admission to the MSc/PhD/PhD on BS programs in Computer Option:

Data Structures: Arrays, stacks, queues, link lists, trees, hash tables, graphs, searching and sorting algorithms.

Computer Architecture: Microprogramming, bit slicing, arithmetic processor design, arithmetic algorithms, memory organization, parallel processing, multiprocessor systems, peripheral organization, I/O processing, I/O controllers.

Microprocessor: Microprocessor architecture, microprocessor programming, peripheral organization, memory unit, I/O interfacing, interrupt processed I/O, microprocessor based communication.

Students without the above required background will be considered for admission to the Academic Deficiency Program.

Remark: EE 441, EE 445 and EE447 are compulsory courses for Computer Option in the undergraduate program and are recommended to be taken before applying for MSc/PhD/PhD on BS studies in Computer Option. If they (or their equivalents) are not already taken, the following rules apply:

For MSc/PhD on BS applicants:

- If none of EE 441, EE 445 and EE 447 courses are taken before, they should be taken in a one or two term Academic Deficiency Program.
- If at most two are missing, they may be allowed to be taken during the MSc/ PhD on BS study with the consent of the admissions committee.

For PhD applicants:

- If any of EE 441, EE 445 and EE 447 courses are not taken during BSc or MSc program, the missing ones should be taken in a one or two term Academic Deficiency Program.

Control Theory

Applicants of the M.Sc./Ph.D. programs in the control theory area are required to satisfy the "required background conditions" to grant an acceptance offer. A conditional acceptance offer can be issued by the evaluation committee based on the qualifications of the applicant.

Electrical Machines and Power Electronics

For eligibility, the applicant should have taken EE361, EE362, EE462, EE463, and EE464 (or equivalents of these courses if the applicant is not a graduate of METU). Students who have not taken these courses in their undergraduate study are expected to be successful in all of them in the M.Sc. program. These courses can not be replaced with another course.

If the student does not meet these requirements,

- EE361-EE362 can only be taken in the Academic Deficiency Program.
- If the student did not get a passing grade from any of the 4th year background content courses (EE462, EE463 and EE464), the student is required to complete two of these courses under the Academic Deficiency Program while one of them may count towards M.Sc. program with credit.
- If the student has successfully passed EE463, the student must complete the missing background content courses (EE462 and/or EE464) during his/her MSc program.

Electromagnetics, Antennas and Microwaves

Required background for applicants:

For eligibility, the applicant must have taken courses covering basic electromagnetics (equivalent to EE 224 and EE 303 in METU Undergraduate Program) and covering the topics related to antennas and microwaves (equivalent to EE 426 and EE 427 in METU Undergraduate Program). Topics covered in course EE428 are also strongly recommended.

Conditional acceptance for M.Sc. Degree, Ph.D. on B.Sc. Degree and Ph.D. degree

If the evaluation committee concludes that the applicant is eligible, but has insufficient background on antennas and/or microwaves, the applicant (upon acceptance) is required to complete at least a one semester Academic Deficiency Program, taking the courses EE 426 and/or EE 427. Based on the qualifications of the applicant, evaluation committee will determine the content and the duration of the Academic Deficiency Program.

Electronics:

M.Sc. Program:

EE 413, EE 419 and (EE 510 or EE 617) are the required courses in the M.Sc. program with the Electronics specialization area. Students who have not taken these courses in their undergraduate study are expected to be successful in all of them in the M.Sc. program. These courses can not be replaced with another course.

The students with no background on fundamentals of semiconductor devices and electronics through undergraduate courses equivalent to EE 212, EE 311 and EE 312 may be considered for admission to the Academic Deficiency Program.

Ph.D. Program:

Since the Electronics area Ph.D. Qualifying Examination covers the courses EE 413, EE 419, EE 510, and EE 617 in addition to the background and special subjects, Ph.D. students are advised to eliminate any deficiency on the related subjects before they take the Qualifying Examination. Students with considerable deficiency in the above subjects may be considered for admission to the Academic Deficiency Program.

Power Systems

Students with considerable deficiency in the required background content may be considered for admission to the Academic Deficiency Program by the evaluation committee.

Robotics

Applicants of the M.Sc./Ph.D. programs in the robotics area are required to satisfy the "required background conditions" to grant an acceptance offer. A conditional acceptance offer can be issued by the evaluation committee based on the qualifications of the applicant.

Signal Processing

Applicants of the M.Sc./Ph.D. programs in the signal processing area are required to satisfy the "required background conditions" to grant an acceptance offer. A conditional acceptance offer can be issued by the evaluation committee based on the qualifications of the applicant.

Telecommunications

EE435 and EE436 are required courses in the undergraduate program of the Telecommunications specialization area. Students applying to the M.Sc. program without having taken these or equivalent courses in their undergraduate program are required to take both courses as part of the Academic Deficiency Program. If they have taken one of EE435 or EE436 (or equivalent thereof), the missing course is taken during the M.Sc. program.