

Accelerated MS Degree Option: 5-yr BSE/MS in Electrical and Computer Engineering (ECE)

Through careful planning, undergraduates matriculating with Advanced Placement credits may use the flexibility to take graduate courses in their senior year to structure an accelerated program leading to a Bachelor's degree in Electrical and Computer Engineering (ECE) at the end of four years and a Master's degree at the end of a fifth year. A sample accelerated program assuming Advanced Placement in Mathematics is illustrated below.

Students wishing to pursue the illustrated program should inform their academic advisor, the ECE Director of Graduate Studies and the ECE Director of Undergraduate Studies by the end of the first month of classes in the fall semester of their senior year. A minimum GPA of 3.2 is required to apply for the accelerated Master's Degree Program.

To ensure that courses are appropriately recognized for undergraduate and graduate credit and to resolve tuition issues, it is imperative that students discuss options with ECE DGS and ECE DUS in a timely manner before expecting to take courses for graduate credit.

Sample Accelerated Program for a Master's Degree in Electrical and Computer Engineering (ECE)

FIRST YEAR	
Fall Semester	Spring Semester
1. WRITING 20/SS-H 1	1. SS-H 1/WRITING 20
2. CHEM 31L Core Concepts in Chemistry	2. PHYSICS 61L Mechanics
3. MATH 32 Calculus I	3. MATH 103 Intermediate Calculus
4. EGR 53L Comp Methods in Engineering	4. ECE 27L Fundamentals of ECE
SOPHOMORE YEAR	
Fall Semester	Spring Semester
1. COMPSCI 100E, Program Design & Analysis II	1. ECE 51L Microelectronic Devices & Circuits
2. ECE 52L Digital Systems	2. ECE 54L Signals & Systems
3. MATH 107 Linear Algebra & Differential Equations	3. MATH 108 Ordinary & Partial Differential Equations
4. PHYSICS 62L Electricity, Magnetism & Optics	4. BIOLOGY 101L Molecular Biology <i>or</i> BIOLOGY 102L Genetics and Evolution <i>or</i> BIOLOGY 147 Systems Biology
5. SS-H 2	5. SS-H3

JUNIOR YEAR	
Fall Semester	Spring Semester
1. ECE 53L Electromagnetic Fields	1. ECE Elective
2. ECE Concentration Elective (1)	2. ECE Concentration Elective (2)
3. STA 113, Probability & Statistics or MATH 135, Probability or ECE 255, Probability for ECE	3. Free Elective
4. SS-H 4	4. SS-H 5
SENIOR YEAR	
Fall Semester	Spring Semester
1. ECE Concentration Elective (3)	1. ECE Concentration Elective (4)
2. ECE Elective	2. Free Elective
3. Approved ECE Design Elective	3. Approved Graduate Elective, ECE 2XX (Graduate Credit)
4. Free Elective	4. Approved Graduate Elective, ECE 2XX (Graduate Credit)
GRADUATE SCHOOL YEAR	
Fall Semester	Spring Semester
1. ECE 2XX	1. ECE 2XX
2. Approved Graduate Elective	2. Approved Graduate Elective
3. Minor 2XX	3. ECE 2XX
4. ECE 2XX	4. ECE 2XX

IMPORTANT NOTES:

- **MATH 32:** Advanced Placement Credit for MATH 31 is required in this sample program. Other programs are possible for different AP credits.
- **WRITING 20:** University Writing Program, required in the first year.
- **CHEM 31L:** AP CHEM 19 is also acceptable. Students who have successfully completed CHEM 21L need not take CHEM 31L.
- **SS-H:** Social Sciences and Humanities electives, 5 required semester-course electives, [appropriately distributed](#).
- **PHYSICS 61L & 62L:** Matriculating students who have AP credit for PHYSICS 61L (but not 62L) take PHYSICS 62L; those who have AP credit for PHYSICS 61L and 62L take PHYSICS 63L; and international students who have IPCs for GCE A-level physics take PHYSICS 63L *or* 143.
- **BIOLOGY 101L or 102L or 147:** AP credit BIOLOGY 19 is also acceptable.
- **STA 113** is recommended but students may substitute MATH 135 or ECE 255.
- **ECE Concentration Electives:** Four courses selected from the [set approved for the ECE program](#). Courses must be selected from at least

- two areas, and at least two courses must be from one area.
- **Elective ECE Course:** Any ECE course not otherwise included in the student's program. These courses may be Independent Study courses.
 - **Approved Design Elective:** Approved Electrical and Computer Engineering Design Elective, required in Junior or Senior year. Currently ECE 123, 135, 164, 251 and 261 are approved. The same course may not be used as a Concentration Elective and count as a required Design Elective.
 - **Approved Graduate Elective:** Consent of Advisor and DGS required.
 - **Independent Study:** Accepted for up to two of the Elective ECE Courses and for any of the Free Electives, but not for any other required course in the ECE Program.