



ELECTRICAL ENGINEERING MAJOR SHEET

This guide is provided for student use only. It does not represent an official documentation of a student's progress towards completion of their degree program. The EE program requires a minimum of 128 credit hours to complete. Students must have a grade of C or better in ECE 1411, 2411 and 2610, a minimum 2.0 GPA in all ECE course work taken, and a minimum 2.0 GPA in all course work taken in order to graduate. Students must also complete an Exit Interview with the ECE Department during their final semester to graduate.

ELECTRICAL ENGINEERING CORE COURSES – All courses in this section must be completed.

<input checked="" type="checkbox"/>	COURSE NUMBER & TITLE	HRS	PREREQUISITES/COREQUISITES
	ECE 1001 Introduction to Robotics	3	None
	ECE 1021 Computer-Based Modeling	3	MATH 1350, ECE 1001
	ECE 1411 Logic Circuits I (<i>must pass with C</i>)	2	None
	ECE 2050 Intro to Physical Electronics	3	Coreqs. MATH 3400, PES 2130
	ECE 2205 Circuits and Systems I	4	ECE 2610, Coreq. MATH 3400
	ECE 2411 Logic Circuits II (<i>must pass with C</i>)	2	ECE 1411
	ECE 2610 Intro to Signals and Systems (<i>must pass with C</i>)	4	MATH 1360, ECE 1021
	ECE 3020 Semiconductor Devices I	3	ECE 2050 and ECE 2205
	ECE 3205 Circuits and Systems II	4	ECE 2205
	ECE 3110 Electromagnetic Fields I	3	ECE 2205
	ECE 3210 Electronics I	3	ECE 2205
	ECE 3220 Electronics II	3	ECE 3205 and ECE 3210
	ECE 3230 Electronics Lab I	1	Coreq. ECE 3210
	ECE 3240 Electronics Lab II	1	ECE 3230, Coreq. ECE 3220
	ECE 3420 Microprocessor Systems Lab	1	ECE 1411, Coreq. ECE 3430
	ECE 3430 Intro to Microcomputer Systems	3	ECE 1411, Coreq. ECE 3420
	ECE 3610 Engineering Probability & Statistics	3	MATH 2350
	ECE 4890 Senior Seminar	1	Must be taken the semester prior to ECE 4899
	ECE 4899 Design Project	3	ECE 4890 & last semester of degree
	TOTAL	50	

ELECTRICAL ENGINEERING ELECTIVES – Courses in this section should be chosen from the two lists as indicated.

<input checked="" type="checkbox"/>	COURSE NUMBER & TITLE	HRS	PREREQUISITES/COREQUISITES
	Complete any 4 of the following 9 courses		
	ECE 3120 Electromagnetic Fields II	3	ECE 3110, MATH 3400
	ECE 4020 Semiconductor Devices II	3	ECE 3020
	ECE 4242 Advanced Digital Design Methodology	3	ECE 2411
	ECE 4340 VLSI Circuit Design I	3	ECE 3020, ECE 3210
	ECE 4480 Computer Architecture & Design	3	ECE 3430 or instructor consent
	ECE 4510 Feedback Control Systems	3	ECE 2205
	ECE 4625 Communications Systems I	3	ECE 3205
	ECE 4650 Modern Digital Signal Processing	3	ECE 3205, ECE 3610 or equivalent
	ECE 4910 Power Systems II	3	ECE 3910

	Complete any 2 of the following 8 courses		
	ECE 3440 Microcomputer Systems Lab	1	ECE 2411, ECE 3430
	ECE 4040 Introductory VLSI Fabrication Lab	1	ECE 4020, ECE 4080 or instructor consent
	ECE 4150 Microwave Measurement Lab	1	ECE 3120 or equivalent
	ECE 4200 Advanced Digital Design Lab	1	ECE 4242
	ECE 4530 Control Systems Lab	1	Coreq. ECE 4510
	ECE 4560 Digital Control Lab	1	Coreq. ECE 4540
	ECE 4670 Communications Lab	1	ECE 3230, Coreq. ECE 4625
	ECE 4680 Signal Processing Lab	1	ECE 3230, Coreq. ECE 4650
	TOTAL	14	

TECHNICAL ELECTIVES – 9 hours of Technical Electives chosen from this list: ECE courses at the 3000 or 4000 level, BIOL3020-3, BIOL3100-3, BIOL3140-3, BIOL 3210-3, BIOL3220-3, BIOL3300-3, BIOL3330-3, BIOL3600-4, BIOL3610-4, BIOL3700-3, BIOL3830-3, BIOL3910-3 CHEM3010-3, CHEM3300-3, CHEM3310-3, CHEM3320-3, CHEM3330-2, CHEM3340-2, CHEM3370-2, CHEM3380-2, CHEM3400-2, CHEM3410-3, PES3060-3, PES3130-3, PES3210-3, PES 3410-3, PES 3650-3, PES 3670-3, CS 3010, CS 3020-3, CS 3060-3, CS 3160-3, CS 3300-3, MAE3130-3, MAE3135-3, MAE3201-3, MAE3310-3, MAE3401-3, MAE3560-3, MATH3110-3, MATH3130-3, MATH3410-3, MATH3500-3, MATH3510-3. Other courses in BIOL, CHEM, CS, ECE, MAE, MATH and PES numbered 4000+ may be accepted with a petition completed prior to taking the course.

<input checked="" type="checkbox"/>	COURSE NUMBER & TITLE	HRS	PREREQUISITES/COREQUISITES
	TOTAL	9	

MATHEMATICS – All courses in this section must be completed.

<input checked="" type="checkbox"/>	COURSE NUMBER & TITLE	HRS	PREREQUISITES/COREQUISITES
	MATH 1350 Calculus I or (MATH 1310 and 1320)	4	MATH1050 or score of 50 on Calculus MPT
	MATH 1360 Calculus II	4	MATH1350
	MATH 2350 Calculus III	4	MATH1360
	MATH 3400 Intro. to Differential Equations	3	MATH2350
	MATH 3110 or higher (except Math 3810)	3	Check Bulletin for specific course prerequisites
	TOTAL	18	

BASIC SCIENCE – PES 1110, 1120 and 2130 must be completed. Five additional hours of Basic Science are also required and may be chosen from the following courses (credit hours for each class are listed after the course number): CHEM1030-5, CHEM1060-5, GEOL1010-4, GEOL1020-4, BIOL1200-4, BIOL1210-4 or any other PES course that has a prerequisite of PES1110.

<input checked="" type="checkbox"/>	COURSE NUMBER & TITLE	HRS	PREREQUISITES/COREQUISITES
	PES 1110 General Physics I	4	Coreq. MATH1350
	PES 1120 General Physics II	4	PES1110, Coreq. MATH1360
	PES 2130 General Physics III	3	PES1120, Coreq. MATH2350
	5 hours of additional Science courses from list above	5	Check Bulletin for specific course prerequisites
	TOTAL	16	

WRITING SKILLS – All courses in this section must be completed. ENGL 1410 can replace ENGL 1310 if the student desires a more challenging writing course. Students may take both ENGL 1300 and 1305 to receive credit for ENGL 1310.

<input checked="" type="checkbox"/>	COURSE NUMBER & TITLE	HRS	PREREQUISITES/COREQUISITES
	ENGL 1310 Rhetoric & Writing I	3	Score of 19+ on ACT Engl or 450+ on SAT Verb
	ENGL 2090 Technical Writing and Presentation	3	ENGL1310
	Writing Competency Portfolio	N/A	Complete 1 year prior to expected graduation
	TOTAL	6	

HUMANITIES/SOCIAL SCIENCE ELECTIVES – Complete 15 hours of Humanities/Social Science Electives. You must complete at least 6 hours of Humanities and 6 hours of Social Science from the departments listed. At least 6 hours must be taken at the 2000+ level. Humanities electives can be chosen from the following departments: AH, ENGL (non-composition courses only), HIST, HUM, Languages (culture courses only), MUS (except choir or lessons) and PHIL. Social Science electives can be chosen from the following departments: ANTH, COMM, ECON, GES, GRNT, PSC, PSY, SOC and WEST. ID -1010 Freshman Seminar may also be taken for credit.

<input checked="" type="checkbox"/>	COURSE NUMBER & TITLE	HRS	PREREQUISITES/COREQUISITES
	Humanities Courses	6	
	Social Science Courses	6	
	One additional course from Humanities or Social Science	3	
	TOTAL	15	

ECE Office, Engineering Bldg., Room 299
 Phone: 719-255-3548 Email: ecedept@eas.uccs.edu
 Web: <http://eas.uccs.edu/ECE>



ELECTRICAL ENGINEERING SAMPLE PROGRAM

The following document is intended for student use only. It represents the suggested order and semesters in which students should take courses to graduate within 4 years. Since each student starts at a different level of mathematical ability this listing should only be considered a guide. *Please refer to the Electrical Engineering Major Sheet for elective options and course prerequisites and co-requisites.*

Courses marked with an * are usually available in the summer. Please note that all ECE courses numbered above 3000 are generally only offered during the indicated semester, except for ECE 4890 and 4899.

FRESHMAN YEAR

FALL SEMESTER (16 credit hours)	SPRING SEMESTER (16 credit hours)
*MATH 1350 Calculus I – 4	*MATH 1360 Calculus II – 4
*PES 1110 General Physics I – 4	*PES 1120 General Physics II – 4
ECE 1001 Introduction to Robotics – 3	ECE 1021 Computer-Based Modeling – 3
*Humanities/Social Science Elective – 3	*ECE 2411 Logic Circuits II – 2
*ECE 1411 – Logic Circuits I – 2	*ENGL 1310 Rhetoric & Writing I – 3

SOPHOMORE YEAR

FALL SEMESTER (16 credit hours)	SPRING SEMESTER (16 credit hours)
*MATH 2350 Calculus III – 4	*MATH 3400 Intro. to Differential Equations – 3
ECE 2610 Intro to Signals and Systems – 4	PES 2130 General Physics III – 3
*Basic Science course with Lab – 5	ECE 2050 Intro. to Physical Electronics – 3
*Humanities/Social Science elective – 3	ECE 2205 Intro to Circuits and Systems I – 4
	*ENGL 2090 Technical Writing & Presentation – 3

JUNIOR YEAR

FALL SEMESTER (15 credit hours)	SPRING SEMESTER (17 credit hours)
ECE 3020 Semiconductor Devices I – 3	ECE 3110 Electromagnetic Fields – 3
ECE 3205 Circuits and Systems II - 4	ECE 3220 Electronics II – 3
ECE 3210 Electronics I – 3	ECE 3240 Electronics Lab II – 1
ECE 3230 Electronics Lab I – 1	ECE 3610 Engineering Probability & Stats – 3
ECE 3420 Microprocessor Systems Lab – 1	*Humanities/Social Science Elective – 3
ECE 3430 Intro to Microcomputer Systems – 3	*Electrical Engineering Electives – 4

SENIOR YEAR

FALL SEMESTER (16 credit hours)	SPRING SEMESTER (16 credit hours)
*MATH elective numbered 3100 or higher – 3	ECE 4899 Design Project – 3
*Technical Elective Courses – 9	*Electrical Engineering Electives – 10
ECE 4890 Senior Seminar – 1	*Humanities/Social Science Elective – 3
*Humanities/Social Science elective – 3	