UNIVERSITY of HOUSTON

CULLEN COLLEGE of ENGINEERING
Department of Electrical & Computer Engineering

Electrical Engineering Official Degree Plan

1 SCHEDULE AN APPOINTMENT WITH A FACULTY ADVISOR ACCORDING TO YOUR SELECTED CONCENTRATION AREA (EE) OR DEGREE MAJOR (CPE)

Applied Electromagnetics: Dr. David Jackson (djackson@uh.edu)

Computer & Embedded Systems & CpE Majors: Dr. Yuhua Chen (yuhuachen@uh.edu)

Electronics: Dr. Len Trombetta (trombett@central.uh.edu)

Nanosystems: Dr. Stanko Brankovic (srbranko@central.uh.edu)

Power: Dr. Harish Krishnamoorthy (hskrishn@uh.edu)

Signals, Communications & Controls: Dr. Bhavin Sheth (brsheth@central.uh.edu)

2 PREPARE FOR YOUR APPOINTMENT

- ☐ Complete the attached degree plan form by reflecting your degree progress using MyUH Advisement Report.
- ☐ Select your electives. View the UH Course Catalog to review course descriptions and requirements.
- ☐ Use the *semester to semester plan* template to map out your remaining semesters, using the ECE expected course offerings to plan ahead.
- ☐ Bring your notes & questions to your appointment to collaborate with your faculty advisor.

3 GET YOUR DEGREE PLAN APPROVED AND SUBMIT TO THE ECE OFFICE

- ☐ Save a copy of your approved degree plan and semester to semester plan document for your student records.
- ☐ Submit your ***signed*** degree plan form (one page only) to the ECE Office HERE.
- ☐ Follow up with your faculty advisor to discuss any potential changes.

Areas of Concentration & Elective Course Selection

Concentration area courses in bold text are required electives and must be included in the total concentration electives required for EE degree majors.

APPLIED ELECTROMAGENTICS

ECE 3318	***Applied Electricity & Magnetism***
ECE 5317/5113	***Microwave Engineering***
ECE 5318/5114	***Antenna Engineering***
ECE 3364	Circuits & Systems
ECE 3366	Introduction to DSP
ECE 3456	Analog Electronics
ECE 4339/4119	Physical Principles of Solid State Devices
ECE 4363/4113	Energy Conversion Devices
ECE 4371/4117	Advanced Telecommunications Engineering
ECE 5319	Introduction to Nanotechnology
ECE 5358	Modern Optics & Photonics

ELECTRONICS

ECE 3364	***Circuits & Systems***
ECE 3456	***Analog Electronics***
ECE 3457	***Digital Electronics***
ECE 4339/4119	***Physical Principles of Solid State Devices***
ECE 3318	Applied Electricity & Magnesium
ECE 5317/5113	Microwave Engineering
ECE 5318/5114	Antenna Engineering
ECE 5319	Introduction to Nanotechnology
ECE 5320	Introduction to Nanomaterials Engineering
ECE 5321	Design & Fabrication of Nanoscale Devices
ECE 5340	Introduction to Well-Logging Techniques
ECE 5356	CMOS Analog Integrated Circuits
ECE 5358	Modern Optics & Photonics

POWER

ECE 3318	***Applied Electricity & Magnetism***
ECE 3364	***Circuits & Systems***
ECE 4363/4113	***Energy Conversion Devices***
ECE 5377/5127	***Power Systems Analysis***
ECE 4375/4115	Automatic Control Systems
ECE 5335/5115	State-Space Engineering
ECE 5380/5180	Power Electronics & Electric Devices
ECE 5388	Renewable Energy Technology

SIGNALS, COMMUNICATIONS & CONTROLS

ECE 3366	***Introduction to DSP***
ECE 5397/4117	***Advanced Telecommunications Engineering***
ECE 4375/4115	***Automatic Controls Systems***
ECE 3364	Circuits & Systems
ECE 4437	Embedded Microcomputer Systems
ECE 5317/5113	Microwave Engineering
ECE 5318/5114	Antenna Engineering
ECE 5330	Introductions to Robotics
ECE 5335/5115	State-Space Engineering
ECE 5440	Advanced Digital Design
ECE 5451	Internetworking
ECE 5357	Introduction to Cybersecurity
ECE 5397	Robotics & ROS
ECE 5397	Introduction to Machine Learning

COMPUTER & EMBEDDED SYSTEMS

ECE 4437 or	***Embedded Microcomputer Systems OR***
ECE 5440	***Advanced Digital Design***
ECE 5367	***Introduction to Computer Architecture & Design***
COSC 1437	***Introduction to Programming***
ECE 3366	Introduction to DSP
ECE 3456	Analog Electronics
ECE 3457	Digital Electronics
ECE 4375/4115	Automatic Control Systems
ECE 4437	Embedded Microcomputer Systems
ECE 5330	Introduction to Robotics
ECE 5440	Advanced Digital Design
ECE 5451	Internetworking
ECE 5357	Introduction to Cybersecurity
ECE 5397	Robotics & ROS
ECE 5397	Introduction to Machine Learning
ECE 5436	Advanced Microprocessor
COSC 2436	Programming & Data Structures

NANOSYSTEMS

ECE 4339/4119	***Physical Principles of Solid State Devices***
ECE 5319	***Introduction to Nanotechnology***
ECE 5320	***Introduction to Nanomaterials Engineering***
ECE 5321	***Design & Fabrication of Nanoscale Devices***
ECE 3318	Applied Electricity & Magnetism
ECE 3364	Circuits & Systems
ECE 4363/4113	Energy Conversion Devices
ECE 5317/5113	Microwave Engineering
ECE 5318/5114	Antenna Engineering
ECE 5356	CMOS Analog Integrated Circuits
ECE 5380/5180	Power Electronics & Electric Devices

TECHNICAL ELECTIVE OPTIONS

ECE ****	Choice of 3000 - 5000 level ECE elective
PHYS 3312	Modern Optics
PHYS 3315	Modern Physics I
MATH 3355	Vector Analysis
MATH 3364	Complex Analysis
MATH 4364	Numerical Analysis
MECE 2334	Introduction to Thermodynamics
MECE 3400	Introduction to Mechanics

Degree Plan: ***Electrical Engineering***

Name: PeopleSoft ID: Date:

ECE BASE

UH	TR		
☐	☐	ENGI 1100	Introduction to Engineering
☐	☐	ENGI 1331	Computing for Engineers
☐	☐	ENGI 2304	Technical Communications
☐	☐	ECE 2201	Circuits Analysis I
☐	☐	ECE 2202	Circuit Analysis II
☐	☐	ECE 2100	Circuit Analysis Lab
☐	☐	ECE 3331	Programming Applications in ECE
☐	☐	ECE 3441	Digital Logic Design
☐	☐	ECE 3155	Electronics Lab
☐	☐	ECE 3355	Electronics
☐	☐	ECE 3337	Signals & Systems Analysis
☐	☐	ECE 3317	Applied EM Waves
☐	☐	ECE 3436	Microprocessor Systems
☐	☐	ECE 3340	Numerical Methods
☐	☐	INDE 2333	Engineering Statistics

MATHEMATICS

☐	☐	MATH 2413	Calculus I
☐	☐	MATH 2414	Calculus II
☐	☐	MATH 2415	Calculus III
☐	☐	MATH 3321	Engineering Mathematics
☐	☐	**OR** MATH 3331	Ordinary Differential Equations
		AND	**AND**
		MATH 2318	Linear Algebra

SCIENCE

☐	☐	CHEM 1311	Fundamentals of Chemistry*
☐	☐	CHEM 1111	Fundamentals of Chemistry Lab
☐	☐	PHYS 2325	University Physics I
☐	☐	PHYS 2125	University Physics Lab I
☐	☐	PHYS 2326	University Physics II
☐	☐	PHYS 2126	University Physics Lab II

STATE CORE REQUIREMENTS

UH	TR		
		COMMUNICATIONS (6 hours)	
☐	☐	ENGL 1301	First Year Writing I
☐	☐	ENGL 1302	First Year Writing II
		AMERICAN HISTORY (6 hours)	
☐	☐	HIST 1301	The United States to 1877
☐	☐	HIST 1302	The United States since 1877
		GOVERNMENT/POLITICAL SCIENCE (6 hours)	
☐	☐	GOVT 2305	U.S. Government
☐	☐	GOVT 2306	U.S. & TX Constitution & Politics
		APPROVED CORE (6 hours)	
☐	☐	– **ECON 2302** –	Social & Behavioral Sciences
☐	☐	— **ENGI 2304** —	Writing in the Discipline
☐	☐	_____	Language, Philosophy & Culture
☐	☐	_____	Creative Arts

Category 1: Concentration Area

- EE students must include the required concentration electives and chose their remaining electives from their concentration area.
- EE students are responsible to complete a total of 6 concentration electives in all.

CONCENTRATION AREA : _____

☐	☐	Concentration Elective
☐	☐	Concentration Elective
☐	☐	Concentration Elective
☐	☐	Concentration Elective
☐	☐	Concentration Elective
☐	☐	Concentration Elective

Category 2: Elective Courses

EE students are required to choose

- 2 ECE Electives (ECE elective be any ECE 3000 - 5000 ECE course)
- 1 Technical Elective (Choose one from the technical course elective options)

☐	☐	ECE Elective
☐	☐	ECE Elective
☐	☐	Tech Elective

Category 3: ECE Labs

EE students are required to complete 3 ECE labs.

- ECE labs will come from concentration and/or elective course selections.
- 4 credit electives include a lab hour (Ex: ECE 5440)
- 1 credit courses partner with many 3 credit ECE elective options (Ex: ECE 4375/4115)

☐	☐	ECE Lab
☐	☐	ECE Lab
☐	☐	ECE Lab

ECE CAPSTONE DESIGN

Students must attend a Capstone Design Orientation the semester before enrolling in ECE 4335. Check Capstone Design website for details.

☐	ECE 4335	Capstone Senior Design I
☐	ECE 4336	Capstone Senior Design II

RULES YOU NEED TO KNOW:

1. C- Rule: COE requires a grade of "C-" or better for credit in any mathematics, science, or engineering course that applies toward the bachelor's degree. In addition, the "C-" is required for any mathematics, science, or engineering course used as a prerequisite for a subsequent course.
2. Last 30 hours must be exclusively completed at UH
3. MAXIMUM of 66 lower level transfer hours may be applied towards UH degree
4. MAX NUMBER OF ATTEMPTS: COE does not allow a student to attempt Engineering courses more than two times and science or mathematics more than three times
5. MINIMUM of a 2.00 GPA in cumulative, major, and minor GPA to graduate

Comments:

I certify I met with the student above and reviewed their remaining concentration and degree electives.

Advisor's Name (printed): _____ Advisor's Signature: _____

Submit your signed degree plan form to the ECE Office HERE.

Semester to Semester Plan

Name ______________________________ Projected Graduation Date ______________________
Cougar ID ______________________________ *Semester* *Year*
Degree Program ______________________________

Semester:

Course Title	Credit Hours

Semester:

Course Title	Credit Hours

Semester:

Course Title	Credit Hours

Semester:

Course Title	Credit Hours

Semester:

Course Title	Credit Hours

Semester:

Course Title	Credit Hours

Semester:

Course Title	Credit Hours

Semester:

Course Title	Credit Hours

Semester:

Course Title	Credit Hours