

# Most Important: Every Required ECE UG Course Is Offered Once A Year

- Fall Semester:

- 55:032
- 55:033
- 55:041
- 55:043
- 55:054
- 55:070
- 55:088
- 55:091

- Spring Semester

- 55:035
- 55:036
- 55:040
- 55:050
- 55:060
- 55:072
- 55:089

## ECE Model Curriculum (1<sup>st</sup> and 2<sup>nd</sup> years), all tracks

1st YEAR		Course #	Course Name	SH	Pre-Requisite or/Co-Requisite
1st Semester	All	22M:031	Engineering Math I - Single Variable Calculus	4	P: H. S. Algebra and Trigonometry
	F	59:005	Engineering Problem Solving I	3	
	All	4:011	Principles of Chemistry I	4	
	All	10:003	Accelerated Rhetoric (or 10:001 & 10:002)	4	
	F	59:090	First-Year Engineering Seminar	1	
<b>Total</b>				<b>16</b>	
2nd Semester	All	22M:032	Engineering Math II - Multivariable Calculus	4	P: 22M:031
	S	59:006	Engineering Problem Solving II	3	C: 22M:031
	F/S	29:081	Introductory Physics I	4	C: 22M:031
	All	22M:033	Engineering Math III - Matrix Algebra	2	P: 22M:031
	All		General Education Component #1	3	
<b>Total</b>				<b>16</b>	

2nd YEAR			Total		
1st Semester	All	22M:034	Engineering Math IV - Differential Equations	3	P: 22M:032 and 22M:033
	F/S	29:082	Introductory Physics II	4	P: 29:081; C: 22M:032
	All	59:007	Engineering Fundamentals I - Statics	2	P: 22M:031; C: 29:081
	F/S	59:008	Engineering Fundamentals II - Electrical Circuits	3	C: 22M:034
	All	59:009	Engineering Fundamentals III - Thermodynamics	3	P: 22M:031; 4:011; 029:081
<b>Total</b>				<b>15</b>	
2nd Semester	F/S	22M:037	Engineering Math V - Vector Calculus	3	
	F/S	55:040	Linear Systems I	3	P:59:008, 22M:034
	All	57:017	Computers in Engineering	3	P:59:006
	F/S	57:018	Principles of Electronic Instrumentation	4	P:29:082, 59:008
	All		General Education Component #2	3	
<b>Total</b>				<b>16</b>	

At the end of the sophomore year, students select one of two curricular tracks—Electrical or Computer and the courses for their elective focus area (EFA).

Within each track, students can tailor their study toward many specialties including

- General Breadth in EE, Engineering Fundamentals, ...
- Specialization in Applied Physics, Computer Engineering, Software Engineering, Control Systems, Electronics, Communication, Signal Processing, Imaging Processing, Optics, ...
- Special Interests in Business, Technical Entrepreneurship, ...
- Bio-Engineering
- Pre-Med
- ...

## Electrical Track

- For students seeking a traditional electrical engineering education
- Provides a well-rounded exposure to a relatively broad set of EE areas
  - electronics
  - controls
  - communications
  - EE materials and devices

### Required courses:

55:041 Electronic Circuits

55:043 Linear Systems II

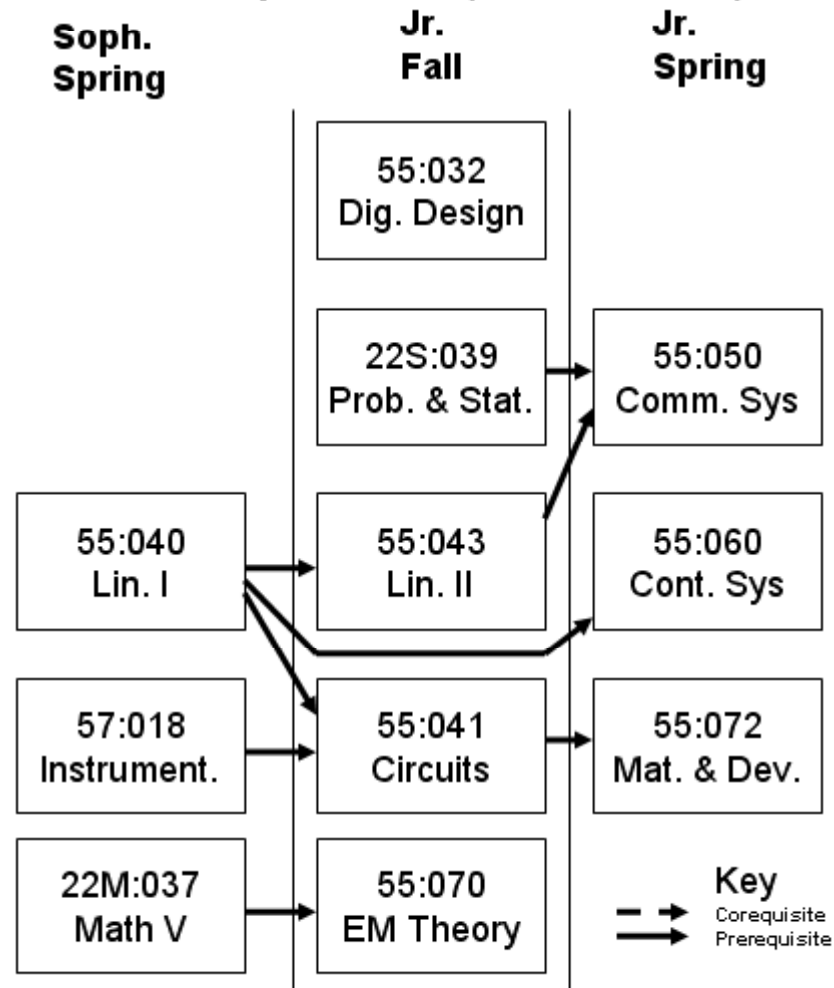
55:050 Communication Systems

55:060 Control Systems

55:072 EE Materials and Devices

# EE Track Pre/co-requisites

## Electrical Engineering Track Prerequisite Flow (revised 3/16/04)



## ECE Model Curriculum EE Subtrack (3<sup>rd</sup> and 4<sup>th</sup> years)

3rd YEAR					
1st Semester	F/S	22S:039	Probability & Statistics for Engineers	3	P: 22M:032
	F	55:032	Introduction to Digital Design	3	Sophomore Status
	F	55:043	Linear Systems II	3	P:55:040
	F	55:041	Electronic Circuits	3	P:55:040, 57:018
	F	55:070	Electromagnetic Theory	3	P:22M:037, 29:082
	F	55:091	Professional Seminar	0	Junior Status
<b>Total</b>				<b>15</b>	
2nd Semester	S	55:050	Communications Systems	3	P:55:043, 22S:039
	S	55:060	Control Systems	3	P:55:040
	All		Elective Focus Area Elective #1	3	
	All		Elective Focus Area Elective #2	3	
	S	55:072	EE Materials and Devices	3	P:29:082, 55:041
	All		General Education Component #3	3	
<b>Total</b>				<b>18</b>	

4th YEAR					
1st Semester	F	55:088	Principles of EE Design	3	Senior Status
	All		Elective Focus Area Elective #3	3	
	All		Elective Focus Area Elective #4	3	
	All		Elective Focus Area Elective #5	3	
	All		Track Breadth Elective *	3	
	All		General Education Component #4	3	
<b>Total</b>				<b>18</b>	
2nd Semester	S	55:089	ECE Senior Design	3	Senior Status P: 55:088
	All		Track Depth Elective **	3	
	All		Elective Focus Area #6	3	
	All		Elective Focus Area #7	3	
	All		General Education Component #5	3	
<b>Total</b>				<b>15</b>	

## Computer Track

- Emphasizes computer system hardware and software and digital system design
- Prepares students for career as a computer engineer—software or hardware
- Students in this track can earn a minor in Computer Science with no extra course work

### Required courses:

55:033 Software Design

55:035 Computer Architecture

55:036 Embedded Systems

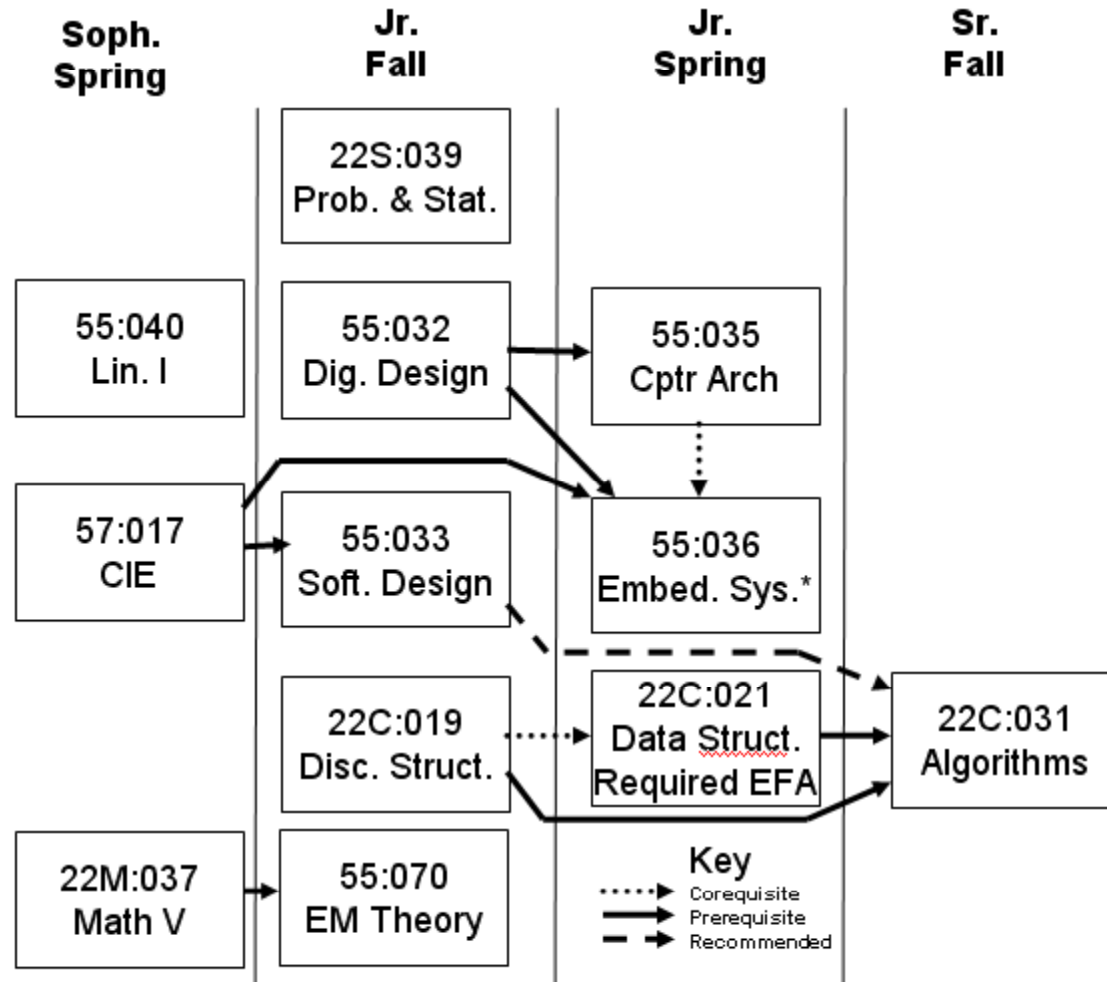
22C:019 Discrete Structures

22C:031 Algorithms

Note: All students in this track must take 22C:021 (CSII: Data Structures) as an EFA prior to enrolling in 22C:031.

# Computer Eng. Track Pre/co-requisites

**Computer Engineering Track  
Prerequisite Flow Chart (revised 11/4/04)**



## ECE Model Curriculum CptrE Subtrack (3<sup>rd</sup> and 4<sup>th</sup> years)

3rd YEAR			Total	16	
1st Semester	F/S	22S:039	Probability & Statistics for Engineers	3	P: 22M:032
	F	55:032	Introduction to Digital Design	3	Sophomore Status
	<b>F/S</b>	<b>22C:019</b>	<b>Discrete Structures</b>	<b>3</b>	<b>P:57:017</b>
	F	55:033	Introduction to Software Design	3	P:57:017
	F	55:070	Electromagnetic Theory	3	P:22M:037, 29:082
	F	55:091	Professional Seminar	0	Junior Status
			<b>Total</b>	<b>15</b>	
2nd Semester	<b>F/S</b>	<b>22C:021</b>	<b>Computer Science II (EFA #1)</b>	<b>3</b>	<b>C: 22:019</b>
	S	55:035	Computer Architecture and Organization	3	P: 55:032, 57:017
	S	55:036	Embedded Systems and System Software	3	C: 55:035; P: 57:017
	All		Elective Focus Area #2	3	
	All		Elective Focus Area #3	3	
	All		General Education Component #3	3	
			<b>Total</b>	<b>18</b>	

4th YEAR			Total	18	
1st Semester	F	55:088	Principles of EE Design	3	Senior Status
	<b>All</b>	<b>22C:031</b>	<b>Algorithms</b>	<b>3</b>	<b>P: C- or higher in 22C:021</b>
	All		Elective Focus Area Elective #4	3	
	All		Elective Focus Area Elective #5	3	
	All		Track Breadth Elective *	3	
	All		General Education Component #4	3	
			<b>Total</b>	<b>18</b>	
2nd Semester	S	55:089	ECE Senior Design	3	Senior Status P: 55:088
	All		Track Depth Elective **	3	
	All		Elective Focus Area #6	3	
	All		Elective Focus Area #7	3	
	All		General; Education Component #5	3	
			<b>Total</b>	<b>15</b>	