

## Electrical Engineering and Engineering Physics

This dual-degree curriculum is particularly well suited for students seeking thorough preparation in the field of electronic device physics. It is a combination of the basic electrical engineering and engineering physics curricula and requires 162 credit hours, distributed over five years. The student will earn two degrees: B.S. in electrical engineering and B.S. in engineering physics.

Two alternative course sequences are listed below. Students who follow the EE-EP (EE first) course sequence will complete 135 credit hours, including all of the required electrical engineering courses, by the end of the fourth year and the remaining credit hours at the end of the fifth year. Since 134 credit hours are required for the electrical engineering degree, the student will complete the requirements for that degree at the end of the fourth year, and the requirements for the engineering physics degree at the end of the fifth year.

In the alternative EP-EE (EP first) course sequence, the student completes 133 credit hours by the end of the fourth year, including all the required physics courses, and the remaining credits at the end of the fifth year. Since 131 credit hours are required for the engineering physics degree, the student will complete the requirements for that degree at the end of the fourth year, and the requirements for the electrical engineering degree at the end of the fifth year.

Students interested in a dual-degree program combining physics (rather than engineering physics) and electrical engineering should consult the Physics section of this catalog. That program allows the student to earn the B.S. in physics and the B.S. in electrical engineering.

Students interested in either dual-degree program should contact Prof. Jerome Licini, Department of Physics.

### THE RECOMMENDED SEQUENCES OF COURSES FOR THE TWO DIFFERENT EEEP SEQUENCES

#### EE-EP

First Year			
First Semester	CR	Second Semester	CR
ENGL 001		3 ENGL 002	3
MATH 021		4 MATH 022	4
ENGR 005		2 ENGR 005	2
PHY 011 & PHY 012		5 CHM 030 & ENGR 010	6
			<b>15</b>
<b>14</b>			
Second Year			
First Semester	CR	Second Semester	CR
PHY 021 & PHY 022		5 PHY 031	3
ECE 033		4 ECE 121	2
ECE 081		4 ECE 123	3
MATH 023		4 MATH 205	3
		MATH 208	3
		HSS	4
			<b>18</b>
<b>17</b>			
Third Year			
First Semester	CR	Second Semester	CR
PHY 212		3 PHY 213	3
ECE 108		4 PHY 215	4
ECE 182		1 ECE 125	3
MATH 231		3 ECE 126	3
MATH 322		3 ECE 138	2
ECO 001		4 HSS	3
			<b>18</b>
<b>18</b>			

Fourth Year			
First Semester	CR	Second Semester	CR
PHY 362		3 ECE 258	2
PHY 363		3 ECE - Ap. Elec.	9
ECE 136		3 Electives	3
ECE 257		3 HSS	3
ECE - Ap. Elec.		3	
HSS		3	
			<b>17</b>
<b>18</b>			
Fifth Year			
First Semester	CR	Second Semester	CR
PHY 340 or ME 104		3 PHY 221	2
EP - Ap. Elec.		6 EP - Ap.Elec.	6
Electives		6 Electives	6
			<b>14</b>
<b>15</b>			

### Total Credits: 164

Credits in 4 yrs [135]

The EP-approved electives must include at least three courses from the following:

PHY 363	Physics of Solids	3
PHY 369	Quantum Mechanics II	3
PHY 352	Modern Optics	3
or PHY 355	Nonlinear Optics	
PHY 348	Plasma Physics	3
or PHY 365	Physics Of Fluids	
PHY 380	Introduction to Computational Physics	3

The ECE-approved electives must be approved by the student's advisor.

#### EP-EE

First Year			
First Semester	CR	Second Semester	CR
ENGL 001		3 ENGL 002	3
MATH 021		4 MATH 022	4
ENGR 005		2 ENGR 005	2
PHY 011 & PHY 012		5 CHM 030 & ENGR 010	6
			<b>15</b>
<b>14</b>			
Second Year			
First Semester	CR	Second Semester	CR
PHY 021 & PHY 022		5 PHY 031	3
ECE 033		4 ECE 123 & ECE 121	5
ECE 081		4 MATH 205	3
MATH 023		4 MATH 208	3
		HSS	4
			<b>18</b>
<b>17</b>			
Third Year			
First Semester	CR	Second Semester	CR
PHY 212		3 PHY 213	3
ECE 108		4 PHY 215	4
ECE 182		1 PHY 221	2
MATH 322		3 ECE 125	3
ECO 001		4 ECE 126	3

EP - Ap. Elec.	3	HSS	3
		<b>18</b>	<b>18</b>
<b>Fourth Year</b>			
<b>First Semester</b>	<b>CR</b>	<b>Second Semester</b>	<b>CR</b>
PHY 340 or ME 104	3	ECE 138	2
PHY 362	3	EP - Ap. Elec.	5
PHY 363	3	HSS	3
EP - Ap. Elec.	3	Electives	8
HSS	3		
		<b>15</b>	<b>18</b>
<b>Fifth Year</b>			
<b>First Semester</b>	<b>CR</b>	<b>Second Semester</b>	<b>CR</b>
MATH 231	3	ECE 258	2
ECE 136	3	ECE - Ap. Elec.	9
ECE 257	3	Elective	4
ECE - Ap. Elec.	3		
Electives	3		
		<b>15</b>	<b>15</b>

**Total Credits: 163**

Credits in 4 yrs [133]

The EP-approved electives must include at least three courses from the following:

PHY 363	Physics of Solids	3
PHY 369	Quantum Mechanics II	3
PHY 352	Modern Optics	3
or PHY 355	Nonlinear Optics	
PHY 348	Plasma Physics	3
or PHY 365	Physics Of Fluids	
PHY 380	Introduction to Computational Physics	3

The ECE-approved electives must be approved by the student's advisor.