

## Physics Major for College of Engineering Students

The Department of Physics and Astronomy also has a second-major curriculum for engineering majors. For example, Electrical and Computer Engineering majors need as little as 4 additional hours beyond their normal program to complete a second major in Physics. This combination of fundamental and applied physics can be highly advantageous when the graduate enters the job market. More information can be found at the [Engineering / Physics double major website](#) at the Department of Electrical and Computer Engineering website. Following is the curriculum, including possible engineering course substitutions:

Courses	Hours
PH 105 or PH 125 (General or Honors Physics w/Calculus I)	4
PH 106 or PH 126 (General or Honors Physics w/Calculus II)	4
PH 253 (Modern Physics)	4
PH 255 (Modern Physics Lab)	1
PH 301 or PH 302 (Mechanics or Intermediate Mechanics)	3
PH 331:332 (Electricity & Magnetism I & II) or ECE 340 (Electromagnetics)	6 or 4
PH 441 (Quantum Structure of Matter I)	3
PH 442 (Quantum Structure of Matter II) or PH 481 (Solid State Physics) or ECE 436 (Electronic Materials & Devices)	3
PH 471 (Thermal Physics) or CHE 255 (Chemical Engineering Thermodynamics) or ME 305 (Thermodynamics II) or MTE 362 (Thermodynamics of Materials)	3
Any 300-400 level PH or AY elective, or other approved 300-400 level course*	3
<b>Total</b>	<b>30-32</b>

Note: at least 12 hours at the 300-400 level must be taken within the Department of Physics and Astronomy

\* Possible electives include (but are not limited to): ME 470 (Mechanical Vibrations), ME 471 (Fundamentals of Acoustics), GEO 369 (Introduction to Geophysics), ECE 332 (Electronics 1), AEM 311 (Fluid Mechanics), MATH 455 (Theoretical Foundations of Fluid Mechanics); other possibilities must be approved by the PH undergraduate advising committee.