

**Department of Electrical and Computer Engineering**  
**Approved Engineering Science Elective Courses**                      **Sept. 18, 2018**

**Engineering Science Electives**

Students must complete a total of four elective courses (minimum of 12 credit hours)

CHEG 2610	Environmental Engineering	<b>Credits:</b> 3 hours	
CHEM 3770	Organic Chemistry II	<b>Credits:</b> 3 hours	
CS 2050	Programming in Java	<b>Credits:</b> 2 hours	*EE only. Not allowed for Computer Engineering.
PHYS 3090	Introductory Modern Physics (if not taken as science elective)	<b>Credits:</b> 4 hours	
PHYS 3300	Thermodynamics	<b>Credits:</b> 3 hours	
PHYS 4200	Analytical Mechanics	<b>Credits:</b> 3 hours	
PHYS 4600	Quantum Mechanics	<b>Credits:</b> 3 hours	
STAT 3640	Statistical Methods (Gives students Math minor)	<b>Credits:</b> 4 hours	
ME 2320	Thermodynamics I	<b>Credits:</b> 3 hours	
ME 2560	Statics	<b>Credits:</b> 3 hours	
ME 2570	Mechanics of Materials	<b>Credits:</b> 3 hours	
ME 2580	Dynamics	<b>Credits:</b> 3 hours	
AE 2610	Introduction to Aerospace Engineering	<b>Credits:</b> 3 hours	
AE 3610	Aerodynamics I	<b>Credits:</b> 4 hours	

Additional courses may be used in place of these courses if PRIOR approval is obtained, in writing, from the ECE advisor and the Department Chair. This will typically be reserved for cases when a sequence of courses is requested, e.g. prerequisites must be completed first to take a desired course.

**Additional Approved Engineering Science Electives: (Note many have prerequisites)**

CHEM 3750	Organic Chemistry I	<b>Credits:</b> 3 hours
CCE 3200	Fluids and Water Resources Engineering	<b>Credits:</b> 3 hours
CCE 4340	Hydraulics	<b>Credits:</b> 3 hours
CS 1120	Computer Science II	<b>Credits:</b> 4 hours
CS 2100	Introductory Topics in Computing Technology	<b>Credits:</b> 1 to 3 hours
CS 2240	System Programming Concepts	<b>Credits:</b> 3 hours
EDMM 2460	Introduction to Computer-Aided Design	<b>Credits:</b> 3 hours
ME 2200	Processes and Materials in Manufacturing	<b>Credits:</b> 4 hours
ME 2500	Materials Science	<b>Credits:</b> 3 hours
ECE 2990	Cooperative Education	<b>Credits:</b> 1-3 hours

(a maximum of 3 credit hours allowed as ESE)

ECE 3000 or 4000 level courses not used to fulfill the ECE Elective Group or otherwise required.

Special Consideration for EE Math Minor. (Note: must require Calculus)

	At most one external Prob. or Stat. Allowed	
IEE 2610	Engineering Statistics	<b>Credits:</b> 3 hours
STAT 3620	Probability	<b>Credits:</b> 4 hours
STAT 3640	Statistical Methods	<b>Credits:</b> 4 hours
STAT 3660	Data Analysis for Biosciences	<b>No longer allowed</b>