

# ENGINEERING PHYSICS

## ELECTROMECHANICAL CONTROL SYSTEMS CONCENTRATION

Information appearing in this guide is subject to change. Please talk with your departmental adviser about degree requirements on a regular basis.

### freshman year – fall

	hours
CHEM 150 Chemistry for Engineers***	5
ENGL 101 Composition (or any KU Core GE 2.1)	3
MATH 125 <sup>H</sup> Calculus I	54
ME 228 Computer Graphics	3
PHSX 150 Seminar in Phys., Astr., & Engineering Physics	.5
<b>TOTAL HOURS</b>	<b>15.5</b>

### freshman year – spring

EECS 168 <sup>H</sup> Programming I	4
ENGL 102 <sup>H</sup> Critical Reading & Writing (or any KU Core GE 2.1)	3
MATH 126 <sup>H</sup> Calculus II	4
PHSX 211 General Physics I, and	4
PHSX 216 General Physics I Laboratory	1
-or-	
PHSX 213 General Physics I Honors	5
<b>TOTAL HOURS</b>	<b>16</b>

### sophomore year – fall

EECS 211 Circuits I	3
EECS 140 <sup>H</sup> Introduction to Digital Logic Design	4
MATH 127 <sup>H</sup> Calculus III	4
MATH 290 <sup>H</sup> Elementary Linear Algebra	2
PHSX 212 General Physics II, and	3
PHSX 236 General Physics II Laboratory	1
-or-	
PHSX 214 General Physics II Honors	4
<b>TOTAL HOURS</b>	<b>16</b>

### sophomore year – spring

EECS 212 Circuits II	4
EECS 268 Programming II	4
MATH 220 <sup>H</sup> Applied Differential Equations, or ...	
MATH 320 Elementary Differential Equations	3
ME 210 Statics and Intro to Mechanics	1
PHSX 313 General Physics III	3
PHSX 316 Intermediate Physics Lab	1
<b>TOTAL HOURS</b>	<b>16</b>

### junior year – fall

	hours
EECS 360 Signal & System Analysis	4
EPHX 521 Mechanics I	3
ME 311 Mechanics of Materials	4
ME 312 Basic Engineering Thermodynamics	3
KU Core Elective* <sup>H</sup>	3
<b>TOTAL HOURS</b>	<b>17</b>

### junior year – spring

EECS 312 Electronic Circuits I	3
EPHX 511 Introductory Quantum Mechanics	3
ME 501 Mechanical Engineering Design Process	3
ME 628 Mechanical Design I	3
KU Core Elective* <sup>H</sup>	3
<b>TOTAL HOURS</b>	<b>15</b>

### senior year – fall

EPHX 516 Physical Measurements	4
EPHX 531 Electricity & Magnetism	3
Engineering Elective**	3
ME 640 Design Project	2
KU Core Elective* <sup>H</sup>	3
<b>TOTAL HOURS</b>	<b>15</b>

### senior year – spring

EECS 444 Control Systems	3
EPHX 601 Design of Physical and Electronic Systems	4
ME 641/642/643/644/645 Capstone Design Project	3
KU Core Elective* <sup>H</sup>	6
<b>TOTAL HOURS</b>	<b>15</b>

## ENGINEERING PHYSICS: ELECTROMECHANICAL CONTROL SYSTEMS KU CORE DISTRIBUTION



#### CRITICAL THINKING & QUANTITATIVE LITERACY

GE 1.1 CRITICAL THINKING: PHSX 211  
GE 1.2 QUANTITATIVE LITERACY: MATH 125



#### COMMUNICATION

GE 2.1 WRITTEN COMMUNICATION:  
MEET VIA KU CORE REQUIREMENTS  
GE 2.2 ORAL COMMUNICATION:  
MEET VIA KU CORE REQUIREMENTS



#### BREADTH OF KNOWLEDGE

GE 3H ARTS & HUMANITIES:  
1 COURSE FROM KU CORE LIST  
GE 3N NATURAL SCIENCES: CHEM 150  
GE 3S SOCIAL SCIENCES:  
MEET VIA KU CORE REQUIREMENTS



#### CULTURE & DIVERSITY

AE 4.1 DIVERSITY IN UNITED STATES:  
MEET VIA KU CORE REQUIREMENTS  
AE 4.2 GLOBAL AWARENESS:  
MEET VIA KU CORE REQUIREMENTS



#### SOCIAL RESPONSIBILITY & ETHICS

AE 5 ETHICS & SOCIAL RESPONSIBILITY:  
PHSX 216, 316 AND EPHX 516 (pending approval)



#### INTEGRATION & CREATIVITY

AE 6 CAPSTONE: PHSX / EPHX 601

ENGINEERING PHYSICS SPECIFIC GENERAL EDUCATION REQUIREMENTS: When not specified visit [kucore.ku.edu/courses](http://kucore.ku.edu/courses) for approved courses and activities.

### CURRICULUM NOTES

\* Students must ensure the electives they choose fulfill all remaining KU Core requirements.

\*\* ME 642 (Design Project B – Formula Car) requires ME 627 to be taken in the previous semester as the engineering elective. ME 643 (Design Project C – Biomechanics) requires ME 633 to be taken in the previous semester as the engineering elective. ME 641 (Design Project A) is also available, but has several prerequisite courses that would need to be taken.

\*\*\*CHEM 130<sup>H</sup> can be substituted for CHEM 150.

<sup>H</sup> Honors equivalent course is available.