

# AS in Physics & Pre- Engineering

AS in Physics & Pre- Engineering program at Neosho County Community College provides students with the general education courses normally taken in the first two years at a four years college or university, with major in engineering or physics. two years of calculus, and one year of physics will prepare you for the junior level at four year universities.

## PREREQUISITES

You will need to demonstrate proficiencies in reading, English, and mathematics based on the COMPASS assessment test, ACT or SAT scores, or by taking the recommended/required classes. Some of the courses in this curriculum have specific prerequisites. Prerequisites can be found on the reverse side (Guide to Completing Program Requirements) or in the college catalog.

## GENERAL EDUCATION (GE) COURSES

In order to graduate with a college degree, all students are required to take certain general education courses. These include English composition, speech, wellness, art & humanities, mathematics, computer systems, and social & behavioral sciences.

## PROGRAM CORE COURSES

The major core courses are outlined in the recommended sequence of course section.

## PROGRAM ELECTIVE COURSES

If you are interested in biochemistry, then you could take BIOL 125/126 Biology I Lecture/Lab, BIO 140/141 Biology II Lecture/Lab

If you are interested in chemical engineering then could take MATH 155 Analytic Geometry & Calculus II, MATH 253 Analytic Geometry & Calculus III, MATH 255 Differential Equations

## COURSE SEQUENCE

The listing that follows is a suggested sequence of courses for full-time students majoring in Psychology. Consult your advisor for information specific to your academic situation.

MATH 150	*Analytic Geometry & Calculus I	5
CSIS 100	Intro to Microcomputer Applications or	
CSIS 130	Intro to Computer Information Systems	3
<b>Total -</b>		<b>15</b>

## (Spring) Semester II

ENGL 289/299	English Composition II	3
MATH 155	Analytic Geometry & Calculus II	5
PSYC 155	General Psychology	3
	Arts/Humanities Elective	3
	Social/Behavioral Science Elective	3
<b>Total-</b>		<b>17</b>

## (Fall) Semester III

PHYS 104	Engineering Physics I	3
PHYS 140	Engineering Physics I Lab	2
MATH 253	Analytic Geometry & Calculus III	3
HPER 150	Lifetime Fitness	1
	Arts/Humanities Elective	3
	Program Elective	3
	Program Elective	2-3
<b>Total-</b>		<b>17-18</b>

## (SPRING) SEMESTER IV

PHYS 105	Engineering Physics II	3
PHYS 145	Engineering Physics II Lab	2
MATH 255	Differential Equations	3
	Social/Behavioral Science Elective	3
	Arts/Humanities Elective	3
	Program Elective	3
<b>Total-</b>		<b>17</b>

**Total Program Credits 65-66**

\*: Assuming the student has passed the equivalent of college algebra, and trigonometry. If not, enroll first in Math 125 (5cr)

For more information contact:  
 Program advisors  
 (620) 431-2820, Ext. 241 OR  
 Jim Carlson, (620) 431-2820, ext.233,  
[jcarlson@neosho.edu](mailto:jcarlson@neosho.edu) OR  
 Carol Vaverka (620) 431-2820, ext. 232  
[cvaverka@neosho.edu](mailto:cvaverka@neosho.edu)

## Associate of Science

### RECOMMENDED SEQUENCE OF COURSES

#### (Fall) Semester I

COMM 207	Fundamentals of Speech	3
PSYC 100	College Orientation	1
ENGL 101	English Composition I	3



## Neosho County Community College

800 West 14<sup>th</sup> Street  
 Chanute, KS 66720  
 620-431-2820 (Chanute) or (785) 242-2067 (Ottawa)  
[www.neosho.edu](http://www.neosho.edu)

*In accordance with the 2006-2008 catalog Effective 9/01/2006*

# NEOSHO COUNTY COMMUNITY COLLEGE ASSOCIATE OF SCIENCE IN PHYSICS & PRE-ENGINEERING

## Guide to Completing Program Requirements

**Directions:** As you complete each course, indicate the semester taken (or transferred) and the grade received. The overall GPA must be no less than 2.0 to qualify for graduation. When you have completed 47 credits of the courses listed, start the graduation audit process by contacting your program faculty advisor. You should complete a graduation application in your last semester of courses.

<b>CORE REQUIREMENTS</b> (14 cr)	Course Prerequisite	Credits Hrs Completed/ Transferred	Semester Completed	Grade Earned
ENGL 101 (3 cr) Composition I	ENGL 021 or assessment test score			
ENGL 289 or 299 (3 cr) Composition II	ENGL 101			
COMM 207 (3 cr) Fundamentals of Speech				
CSIS 100 or 130 (3 cr) Intro MicroComp Apps/ Intro CIS				
PSYC 100 (1 cr) College Orientation	For first time, full time freshmen			
HPER 150 (1 cr) Lifetime Fitness				
<b>NATURAL/PHYSICAL SCIENCE &amp; MATHEMATICS</b> (8 cr)	1 science and 1 math required			
Math 150 Analytic Geometry & Calculus (5 cr)	Math 122, equivalent, or concurrent enrollment			
PHYS 104 Engineering Physics I (or PHYS 100) (3 cr)	Concurrent with PHYS 140			
PHYS 140 Engineering Physics I Lab (or PHYS 130) (2 cr)	Concurrent with PHYS 104			
<b>SOCIAL &amp; BEHAVIORAL SCIENCES</b> (9 cr)	PSYC 155 + 2 different areas required			
PSYC 155 (3 cr) General Psychology				
Choose (3 cr) from the following 6 cr hours:				
SOSC 100 (3 cr) Intro to Sociology				
SOSC 101 (3 cr) American Government I				
Choose (3 cr) from the following 6 cr hours:				
ECON 201 (electrical and computer major) (3 cr) Economics (Macro)				
ECON 200 (electrical and computer major) (3 cr) Economics (Micro)				
<b>ARTS &amp; HUMANITIES</b> (9 cr)	3 different areas required			
Choose (3 cr) from the following 6 cr hours:				
HIST 201 (3 cr) History I				
HIST 202 (3 cr) History II				
Choose (6 cr) from the following 9 cr hours:				
ENGL 113 General Literature (3 cr)				
MUSI 120 Music Appreciation (3 cr)				
ART 102 Arts Appreciation (3 cr)				
<b>PROGRAM REQUIREMENTS (24-26 CR)</b>				
<b>PROGRAM CORE COURSES (16 CR)</b>				
PHYS 105 Engineering Physics II (3 cr)	Concurrent with PHYS 145			
PHYS 145 Engineering Physics II Lab (2 cr)	Concurrent with PHYS 105			
Math 155 Analytic Geometry & Calculus II (5 cr)	Math 150			
Math 253 Analytic Geometry & Calculus III (3 cr)	Math 155			
Math 255 Differential equations (3 cr)	Math 253			
<b>PROGRAM ELECTIVES</b> (choose 8-9 credits from the following list)				
CSIS 235 Pascal Programming (3 cr)				
CSIS 240 C++ Programming (3 cr)				
CHEM 105 Introduction to Chemistry (3 cr)	Concurrent with CHEM 106			
MATH 212 Matrix Algebra (2cr)				

CHEM 106 INTRODUCTION TO CHEMISTRY LAB (2 CR)	Concurrent with CHEM 105			
CHEM 125 College Chemistry I (3 cr)	Concurrent with CHEM 126			
CHEM 126 COLLEGE CHEMISTRY I LAB (2 CR)	Concurrent with CHEM 125			
CHEM 135 College Chemistry II (3 cr)	Concurrent with CHEM 136			
CHEM 136 COLLEGE CHEMISTRY II LAB (2 CR)	Concurrent with CHEM 135			
CHEM 165 Organic Chemistry (3 cr)	Concurrent with CHEM 166			
CHEM 166 Organic Chemistry lab (2 cr)	Concurrent with CHEM 165			
<b>DEVELOPMENTAL COURSES</b> (*AS NEEDED BY TEST SCORE)				
<b>TOTAL PROGRAM CREDIT HOURS (64 CR MINIMUM)</b>	<b>65-66 CR</b>			

COMMENTS: (INCLUDING CURRICULUM VARIANCES) "Check with your advisor, and the four years school to which you intend to transfer, before you enroll in program electives".