

**Associate of Science: Mathematics, Physical Science, & Pre-Engineering** Program Code (029)  
 Division of Math and Science Required: 61-63 Credit Hours, 2.00 GPA

Students are required to complete the following General Education and Major Requirement courses. Students who complete this associate's degree are prepared to transfer and continue their education at a four-year college/university. Students should consult with their academic advisor and refer to the 4-semester by semester program planning guide to understand course sequencing.

GENERAL EDUCATION REQUIREMENTS (37 HOURS)	MAJOR REQUIREMENTS (24-26 HOURS)
<p><b>English Composition - 6 hours</b> <i>(Select Both)</i>                      ___ ENGL 1113 Freshman Composition I                      ___ ENGL 1213 Freshman Composition II</p> <p><b>U.S. History - 3 hours</b> <i>(Select One)</i>                      ___ HIST 1483 Am His 1492-1865 or HIST 1493 Am His 1865-Pr</p> <p><b>U.S. Government - 3 hours</b>                      ___ POS 1113 American Federal Government</p> <p><b>Biological Science - 4 hours</b> <i>(Select One)</i>                      ___ BOT 1114 or ZOO 1114</p> <p><b>Physical Science - 5 hours</b>                      ___ CHEM 1115<sup>2</sup></p> <p><b>Orientation - 1 hour</b>                      ___ ORI 1111 Freshman Orientation</p> <p><b>Mathematics - 3 hours</b>                      ___ MATH 1513 College Algebra<sup>2</sup></p> <p><b>Computer Proficiency - 3 hours</b>                      ___ CS 1103 Microcomputer Applications</p> <p><b>Humanities - 6 hours</b> <i>(Select Two)</i>                      ___ HUM 2113 Gen Hum. I      ___ HUM 2223 Gen Hum II                      ___ HUM 2113 Gen Hum. I      ___ HUM 2223 Gen Hum II                      ___ ART 1113 Art Appreciation    ___ DRMA 1213 Intro Theatre                      ___ HIST 1113 Early West Civ    ___ HIST 1123 Mod West Civ                      ___ MUS 1113 Music Apprec      ___ PHIL 1113 Intro to Philosophy                      ___ PHIL 2123 Ethics            ___ RLED 1113 Old Testament                      ___ RLED 1123 New Testament    ___ RLED 2113 World Religions                      ___ Any Literature Course(s)</p> <p><b>Approved Elective - 3 hours</b>  <i>Select any one course in psychology, social sciences, foreign languages, &amp; fine arts (art, music, drama) in conference with advisor</i>                      ___ Elective</p>	<p><b>Required Courses in Major – 13 hours</b> <i>(Select All)</i>                      ___ MATH 1613 Plane Trigonometry                      ___ MATH 2265 Analytic Geometry and Calculus I                      ___ MATH 2275 Analytic Geometry and Calculus II</p> <p><b>Elective Courses – 11-13 hrs</b> <i>(Select one set of Option Electives)</i></p> <p><b>Mathematics Option Electives – 11-13 hours</b>  <i>(Select three or more courses in conference with advisor)</i>                      ___ CHEM 1215 General Chemistry II<sup>3</sup>                      ___ PHYS 1114 or PHYS 2014<sup>1</sup>                      ___ PHYS 1214 or PHYS 2114<sup>1</sup>                      ___ Elective chosen in conjunction with your advisor</p> <p><b>Pre-Engineering Option Electives – 11-13 hours</b>  <i>(Select three or more courses in conference with advisor)</i>                      ___ PHYS 2014 - Engineering Physics I                      ___ PHYS 2114 - Engineering Physics II                      ___ CHEM 1215 General Chemistry II<sup>3</sup>                      ___ Elective chosen in conjunction with your advisor</p> <p><b>Physical Science (Chemistry &amp; Physics) Option Electives – 11-13 hours</b>  <i>(Select three or more courses in conference with advisor)</i>                      ___ CHEM 1215 General Chemistry II<sup>3</sup>                      ___ PHYS 1114 Gen Physics I or PHYS 2014 Eng Physics I<sup>1</sup>                      ___ PHYS 1214 Gen Physics II or PHYS 2114 Eng Physics II<sup>1</sup>                      ___ Elective chosen in conjunction with your advisor</p> <p><b>Notes to Advisee:</b>                      ➤ Math prerequisite sequence is as follows:                      MATH 1513 is a prerequisite to MATH 1613 which is a prerequisite to MATH 2265 which is a prerequisite to MATH 2275                      ➤ Fall only courses: MATH 2265, PHYS 1114, PHYS 2014                      ➤ Spring only courses: MATH 2275, PHYS 1214, PHYS 2114</p>
<p><b>Totals: ----- Credit Hours: 37</b></p>	<p><b>Totals: ----- Credit Hours: 24-26</b></p>

Notation:

1 – Receiving institution's degree plan should be consulted to see which Physics (General or Engineering) is required.

2 – CHEM 1115 has a co-requisite of MATH 1513, or, MATH 1513 may be taken prior to taking CHEM 1115.

3 – Math Ed majors may need GEOG-2243 Fundamentals of Human Geography, instead of CHEM 1215.

**Semester by Semester Degree Plan**  
Math, Physical Sciences, and Pre-Engineering, AS (029)

Course Number – Course Description	Hours
<b>Freshman Year 1<sup>st</sup> Semester – Fall</b>	
<input type="checkbox"/> ORI 1111 Freshman Orientation	1
<input type="checkbox"/> ENGL 1113 Freshman Composition I	3
<input type="checkbox"/> Biological Science - (BOT 1114 or ZOO 1114)	4
<input type="checkbox"/> MATH 1513 College Algebra	3
<input type="checkbox"/> CS 1103 Microcomputer Applications	3
<input type="checkbox"/> Humanities – (ART, ENGL, HUM, MUS, PHIL, OR RLED)	3
<b>Total:</b>	<b>17</b>
<b>Freshman Year 2<sup>nd</sup> Semester – Spring</b>	
<input type="checkbox"/> ENGL 1213 Freshman Composition II	3
<input type="checkbox"/> CHEM 1115 General Chemistry I	5
<input type="checkbox"/> MATH 1613 Plane Trigonometry	3
<input type="checkbox"/> HIST 1483 or 1493 American History	3
<input type="checkbox"/> Elective in General Education: PSY 1113 Intro to Psychology (RECOMMENDED)	3
<b>Total:</b>	<b>17</b>
<b>Sophomore Year 1<sup>st</sup> Semester – Fall</b>	
<input type="checkbox"/> Math 2265 Analytic Geometry and Calculus I	5
<input type="checkbox"/> Elective in Major Option: CHEM 1215 General Chemistry II <u>or</u> GEOG 2243 Fund. Of Human Geography <sup>1</sup>	3-5
<input type="checkbox"/> Elective in Major Option: PHYS 1114 General Physics <u>or</u> PHYS 2014 Engineering Physics I <sup>2</sup>	4
<b>Total:</b>	<b>12-14</b>
<b>Sophomore Year 2<sup>nd</sup> Semester – Spring</b>	
<input type="checkbox"/> POS 1113 American Federal Government	3
<input type="checkbox"/> Math 2275 Analytic Geometry and Calculus II	5
<input type="checkbox"/> Elective in Major Option: Physics 1214 General Physics II <u>or</u> PHYS 2114 Engineering Physics II <sup>2</sup>	4
<input type="checkbox"/> Humanities – (ART, ENGL, HUM, MUS, PHIL, OR RLED)	3
<b>Total:</b>	<b>15</b>
<b>Total Hours: 61-63</b>	

*Program Requirements: 61-63 cr-hrs, 2.00 GPA*

<sup>1</sup>Math Ed majors may need GEOG-2243 Fundamentals of Human Geography, instead of CHEM 1215.

<sup>2</sup>Receiving institution's degree plan should be consulted to see which Physics (General or Engineering) is required.

**How to Use this "Semester by Semester Degree Plan":** Courses in this semester by semester breakdown are listed with several thoughts in mind. Prerequisites are listed first. Science, math, and major coursework are listed in order the course should be taken and in what term the course should be taken. Students should enroll into ORI 1111 and ENGL 1113, and any development courses in the first term. Courses listed in parenthesis are selections from which a student may choose. Enrollment into developmental courses will add to the total credit hour count, and may alter math and science enrollment rotations. -- While this is a guide to help the student with pre-enrollment, a study of the Course Schedule and a visit with an academic advisor is a must.

**Estimated Program Cost:** Students can complete this degree in four semesters (15-17 per semester).

The estimated cost of this program is approximated at:  $61 \text{ credit-hours} \times \$127.25 \text{ per credit hour} = \$ 7,762.25$  (Please know that this cost does not include textbooks, supplies, developmental coursework, and other expenses, and is designed as an ESTIMATE only).

Actual program cost is based on Fall 2018 in-state tuition amounts and the final costs will vary from this estimate.