# PRE-ENGINEERING CERTIFICATE OF COMPLETION PROGRAM

Academic preparation for the Engineering and Engineering Technology programs can be accomplished with the Pre-Engineering Certificate of Completion Program. For the most part, the required courses are common courses required by Electronics Technology, Manufacturing Technology, Network Management, and Engineering, and can be applied toward those technical degrees. Those students interested in Engineering but who are not yet academically prepared for the calculus-based engineering courses will find the Pre-Engineering Certificate Program of Study to be an effective means of reaching that level. Students will also find the Pre-Engineering Certificate Program an effective means to transition from the GED, Adult Basic Education, or Developmental Education programs into the technical program of their choice while still earning a certificate. Native American-serving high schools and tribal colleges having no engineering program can utilize the Pre-Engineering Certificate Program as a basis for articulation into the SIPI AS Engineering Program or the AAS Engineering Technology Programs.

## The Pre-Engineering Certificate Program Goals Statement:

The Pre-Engineering Certificate program provides students with necessary basic skills in English, math, physics, chemistry, and computer science. These skills combined with selected program introductory courses prepare students to make an informed choice of technical major.

The Pre-Engineering Certificate program Outcome Objectives are:

- Demonstrate effective reading skills.
- Communicate effectively in written form.
- Use general mathematical and physical concepts.
- Demonstrate basic computer skills.
- Be prepared to pursue a two-year technical degree.

Academic requirements for the Certificate of Completion in Pre-Engineering (CIP 14.0101P)

| First Trimester | | Credit Hours |
|---|---|---|
| COSC 107 | Computer Literacy | 3 |
| XXXX xxx | Technical Elective* | 3 |
| ENGL 101 | Composition | 3 |
| XXXX xxx | Mathematics Elective** | 3 |
| Total First Trimester Credits | | 12 |
| **Second Trimester** | | |
| XXXX xxx | Physics Elective*** | 3 |
| XXXX xxx | Computer Science Elective**** | 3 |
| XXXX xxx | Technical Elective* | 3 |
| XXXX xxx | Mathematics Elective** | 3 |
| Total Second Trimester Credits | | 12 |
| **Third Trimester** | | |
| CHEM 111 | Introduction to Chemistry | 3 |
| CHEM 111L | Introduction to Chemistry Lab | 1 |
| XXXX xxx | Humanities/Social/Behavioral Science Elective | 3 |
| XXXX xxx | Technical Elective* | 3 |
| XXXX xxx | Mathematics Elective** | 3 |
| Total Third Trimester Credits | | 13 |
| Total Credit Hours Required: | | 37 |

* Consult Academic Advisor. Select from: ELEC 101A/101L, ENGR 101, ENGR 102, ENGR 105, ITCT 111, or ITCT 112

** Consult Academic Advisor. Select from: MATH 120, MATH 121, MATH 123, MATH 145, or MATH 150

*** Consult Academic Advisor. Select from: PHYS 102, Introduction to Physics, or PHYS 151/151L, General Physics and Lab

**** Consult Academic Advisor. Select from: COSC 121, COSC 145, COSC 195

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