VALENCIA

STEM Pathway

Pre-Engineering AS (Mechanical/Aerospace Concentration)

The Pre-Engineering degree provides the first two years of study for a student who plans to transfer to UNM-Albuquerque or another 4-year institution to pursue a bachelor's degree in Engineering. A degree in Pre-Engineering provides a foundation for further study in Chemical, Biological, Environmental, Material, Civil, Nuclear, Electrical, Computer, Mechanical, Aerospace, or Construction Engineering. The degree emphasizes a firm foundation in mathematics and science, with selections of engineering courses tailored to future, more specific fields of engineering.

Fall

Course	Credits
ENGL 1110: Composition I	3
Gen Ed Arts and Design: Choose a course	3
MATH 1215: Intermediate Algebra	3
Gen Ed Student Choice: Choose the recommended course: • CSCI 1210: Computer Programming Fundamentals	3

Spring

Course	Credits
ENGL 1120: Composition II	3
MATH 1220: College Algebra	3
ENG 195: Topics: Introduction to Engineering	3
Gen Ed Social and Behavioral Sciences: Choose a course	3

Summer

Course	Credits
MATH 1240: Pre-Calculus	3
MATH 1230: Trigonometry	3

Fall

Course	Credits
MATH 1512: Calculus I	4
PHYS 1310: Physics I and PHYS 1310L: Lab	4
Gen Ed Humanities: Choose a course	3

Spring

Course	Credits
MATH 1522: Calculus II	4
ENGL 2210: Professional and Technical Communication	3
Gen Ed Second Language: Choose a course	3
PHYS 1320: Physics II and PHYS 1320L: Lab	4

Fall

Course	Credits
MATH 2531: Calculus III	4
ENG 130L: Introduction to Engineering Computing	3
CHEM 1215: General Chemistry I and CHEM1215L: Lab	4

Total Program Credit Hours, including 3 prerequisite credit hours = 63

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Meet with your Academic Success Coach

Apply for FAFSA by October 1st

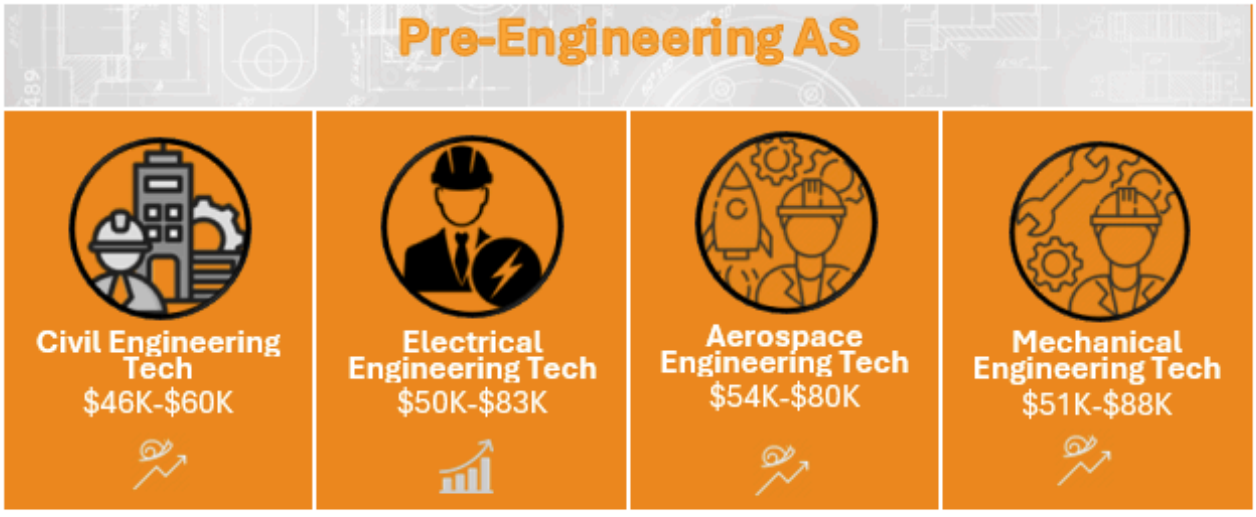
Meet with Financial Aid Apply for scholarships

Meet with your Faculty Mentor

Apply for graduation and/or transfer

Career and Educational Advancement Opportunities

This degree program prepares students with the math and science foundation to continue their studies toward a bachelor's degree in a variety of engineering fields such as chemical, nuclear, civil, construction, mechanical, electrical, or computer engineering. Most full engineering jobs require a bachelor's or master's degree. Technician jobs may be available to those on the associate's degree level. Internships are an important part of engineering education and all engineering internships are paid.



*New Mexico data taken from O*Net Online United States Department of Labor database. Wages reflect annual income and are rounded to the nearest thousand dollars. income and are rounded to the nearest thousand dollars.*

= slow growth = average growth = fast growth

For questions or to schedule a time to meet with an Advisor/Academic Success Coach about this program contact: Advisement at 505.925-8907. Map Current as of the 2026-2027 Academic Year.