

ENGINEERING: MECHANICAL, AEROSPACE, AND MANUFACTURING ENGINEERING EMPHASIS – ASSOCIATE IN SCIENCE DEGREE

Top Code:

0901.00

The Associate in Science in Engineering: Mechanical, Aerospace, and Manufacturing Engineering Emphasis provides a strong preparation for students planning to transfer to a 4-year university and major in Mechanical, Aerospace, and Manufacturing Engineering. The curriculum includes fundamental engineering and science core courses as well as required lower-division courses in Mechanical, Aerospace, and Manufacturing Engineering.

Please Note: The courses that universities and colleges require for transfer vary. When selecting courses for transfer purposes, students should consult with Counseling Services to determine the particular transfer requirements of specific transfer institutions.

Program Outcomes

- Develop technical solutions to mechanical, aerospace, and manufacturing engineering problems using principles of mathematics, science, and engineering.
- Analyze and interpret empirical data to provide a basis for solutions to mechanical, aerospace, and manufacturing engineering problems.
- Communicate orally and in writing the results of experiments, projects, and data analysis.

Requirements for the Major

Code	Title	Units
CHEM 001A	GENERAL CHEMISTRY AND CHEMICAL ANALYSIS I	5
ENGR 002	ENGINEERING GRAPHICS	3
ENGR 010	INTRODUCTION TO ENGINEERING	2
ENGR 011	STATICS	3
ENGR 014	MATERIALS OF CONSTRUCTION	3
ENGR 016	ENGINEERING CIRCUITS	3
ENGR 018	INTRODUCTION TO NUMERICAL ANALYSIS	3
MATH 005A	SINGLE VARIABLE CALCULUS I	5
or MATH 005A#	HONORS SINGLE VARIABLE CALCULUS I	
MATH 005B	SINGLE VARIABLE CALCULUS II	5
or MATH 005B#	HONORS SINGLE VARIABLE CALCULUS II	
MATH 005C	MULTIVARIABLE CALCULUS	5
or MATH 005C#	HONORS MULTIVARIABLE CALCULUS	

MATH 055	DIFFERENTIAL EQUATIONS	4
or MATH 055H	HONORS DIFFERENTIAL EQUATIONS	
PHYS 008A	PHYSICS FOR SCIENTISTS AND ENGINEERS I: MECHANICS	5
or PHYS 001A	PHYSICS FOR SCIENTISTS AND ENGINEERS I: MECHANICS	
PHYS 008C	PHYSICS FOR SCIENTISTS AND ENGINEERS III: THERMODYNAMICS, OPTICS, AND MODERN PHYSICS	5
or PHYS 001C	GENERAL PHYSICS	
Total Units		51

Recommended Electives

Code	Title	Units
ENGR 012	DYNAMICS	3
ENGR 013	STRENGTH OF MATERIALS	3

Visit the Program Mapper (<https://pasadena-city.programmapper.ws/academics/interest-clusters/35afad1b-8598-4ecf-a320-0ed4834a7df8/programs/814720ec-8117-c6ca-a336-d1919f93cc07/>) for a suggested sequence of courses.

General Education Requirements for the Associate in Science Degree

- General Information (<https://curriculum.pasadena.edu/academic-programs-leading-degree-certificate/>)
- PCC Local Gen Ed (<https://curriculum.pasadena.edu/academic-programs-leading-degree-certificate/#pcclocaltext>)
- CSU Breadth (<https://curriculum.pasadena.edu/academic-programs-leading-degree-certificate/#csubreadthtext>)
- IGETC (<https://curriculum.pasadena.edu/academic-programs-leading-degree-certificate/#igetctext>)