DEGREES & CERTIFICATES

CIVIL/MECHANICAL ENGINEERING ASSOCIATE OF SCIENCE (AS)

About the Program
The Associates of Science in Civil/Mechanical Engineering is offered to prepare students to transfer to a four-year institution as a Civil or Mechanical engineering major. The core courses required for this degree will fulfill many of the lower division requirements for most campuses in the UC and CSU systems. This program will enable students to develop a strong foundational understanding in engineering, physics and mathematics that will be essential as they continue on the engineering pathway. In addition, students will benefit from hands-on laboratory experiences in their engineering and science courses allowing them to learn by doing.The LPC Civil/Mechanical Engineering degree is intended for transfer. Students are encouraged to meet with a counselor early on and refer to the catalog of the prospective transfer institution to determine specific major requirements required for transfer since they can vary from university to university. Finally, because this program is a high-unit major, counselors can also assist in determining appropriate general education courses to complete the degree requirements.

Program Goals and Objectives
The goal of this program is to earn a local Associates of Science in Civil/Mechanical Engineering, with the secondary goal of transferring to a four-year institution as either a Civil or Mechanical Engineering major. This program provides a guided path of courses to take for students who have identified their specific career aspirations within the broader engineering field. Students will be able to develop a strong foundation in engineering, physics and mathematics, as well as gain critical hands-on laboratory skills that will help them to succeed in their future educational and career endeavors.

Career Opportunities
Preparation for entry level jobs in Civil and Mechanical Engineering generally require a bachelor's degree in the respective discipline. Civil Engineers design, construct, manage and maintain facilities essential to modern life including buildings, highways, transit hubs, and water systems. They can also work in the construction, environmental and geotechnical industries. Civil Engineers are often employed by local municipalities, consulting firms or large scale construction companies. Mechanical Engineers design, develop, build and test mechanical tools, engines and a wide variety of other equipment. They can work in almost any industry using tools such as Computer Aided Design (CAD) to design everything from a robot used in automotive manufacturing to a more efficient jet engine.

Program Outcomes

- Upon completion of the AS in Civil/Mechanical Engineering, students are able to apply fundamental principles from mathematics, science and engineering to solve a civil/mechanical engineering-related problem.
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- Upon completion of the AS in Civil/Mechanical Engineering, students are able to set up appropriate laboratory equipment, collect and analyze civil/mechanical data, draw conclusions, and clearly communicate results.
- Upon completion of the AS in Civil/Mechanical Engineering, students are able to use a variety of technological tools to solve civil/mechanical engineering problems.

Required Core: (52.5 Units)

CHEM 1A General College Chemistry I	5
ENGR 1 Introduction to Engineering	2
ENGR 23 Engineering Graphics	3
ENGR 26 Computational Methods for Engineers and Scientists	3
ENGR 35 Statics	3
ENGR 44 Introduction to Circuit Analysis	4
ENGR 46 Materials of Engineering	4
MATH 1 Calculus I	5
MATH 2 Calculus II	5
MATH 3 Multivariable Calculus	5
MATH 5 Ordinary Differential Equations	3.5
PHYS 1A General Physics I	5
PHYS 1C General Physics III	5

Total Units for the Major 52.5

Program-Based GE: Select One (3 Units)

CMST 1 Fundamentals of Public Speaking	3
CMST 10 Interpersonal Communication	3

Additional General Education 10