

# PRE-ENGINEERING ASSOCIATE IN SCIENCE DEGREE

**PROGRAM CODE:** 1S03770  
Financial Aide Eligible

The **Associate in Science Degree Pre-Engineering** is designed to prepare students for junior standing at most CSU and UC institutions. To earn an Associate Degree students must complete: (1) all major course requirements with a minimum grade of C or better; (2) Cypress College Native General Education requirements; California State University General Education Breadth requirements (CSU GE Breadth) or IGETC General Education requirements; (3) the social justice, equity and sustainability and reading requirements; (4) any elective courses to complete a minimum of 60 units; and, (5) have a minimum GPA of 2.0. At least 50% of all major course work must be completed at Cypress College. Courses that fulfill major requirements for an Associate Degree at Cypress College might not be the same as those required for completing the major at a transfer institution offering a Baccalaureate Degree. For information on specific university requirements, please consult with your counselor, or visit the Transfer Center. This major requires 51-53 units, in addition to other graduation requirements.

Code	Title	Units
<b>Required Courses Are Listed in Suggested Sequence (45 units):</b>		
MATH 150AC	Calculus I	4
MATH 150BC	Calculus II	4
MATH 250AC	Multivariable Calculus	4
MATH 250BC	Linear Algebra and Differential Equations	5
PHYS 221 C	General Physics I	4
PHYS 222 C	General Physics II	4
PHYS 223 C	General Physics III	4
CHEM 111AC	General Chemistry I	5
ENGR 110 C	Introduction to Engineering	3
ENGR 201 C	Statics	3
ENGR 210 C	Electric Circuits Analysis	5
<b>List A: Select 2 courses from the following (6-8 units):</b>		<b>6-8</b>
ENGR 220 C	Program Prob Solv in MATLA	3
ENGR 205 C	Adv 3D Solid Mod and Simulati	3
ENGR 102 C	Engineering Design Graphics	3
CHEM 111BC	General Chemistry II	5
<b>Total Units</b>		<b>51-53</b>

## Program Student Learning Outcomes:

**OUTCOME 1:** Understand the industries' progression toward automation, employ control methods and procedures, operate components of a fully integrated system, and perform troubleshooting and maintenance on an integrated system as a whole or at the component level.

**OUTCOME 2:** Develop effective oral and visual communication skills and effectively interpret and express ideas.

**OUTCOME 3:** Participate in creative thinking innovation through inquiry, analysis, evaluation, and synthesis of information.

**OUTCOME 4:** Understand the concept of ethics and the consequences of their actions in their decisions and choices.

**OUTCOME 5:** Include intercultural competence, knowledge of civic responsibility, and the ability to engage effectively in regional, national, and global communities.

[https://www.curricunet.com/Cypress/reports/program\\_report.cfm?programs\\_id=1556](https://www.curricunet.com/Cypress/reports/program_report.cfm?programs_id=1556)