

ENGINEERING - ASSOCIATE OF SCIENCE DEGREE (AS)

Explore More About This Program: <https://cwi.edu/program/engineering>

Degree Quick Facts

- **Instructional School:** Industry, Engineering, and Trades
- **Department:** Engineering
- **Program Code:** ENGR.AS
- **Program Type:** Academic Transfer
- **Available Fully Online:** No
- **Eligible for Federal Financial Aid:** Yes

Degree Requirements

Course	Course Title	Min Credits
General Education Requirements		
<i>Complete the following course to fulfill the Connecting with Ideas requirement:</i>		
CWI 101	Connecting With Ideas	3
<i>Complete the following courses to fulfill the GEM 1 requirement:</i>		
ENGL 101	Writing and Rhetoric I	3
ENGL 102	Writing and Rhetoric II	3
<i>Complete the following course to fulfill the GEM 2 requirement:</i>		
GEM 2 - Oral Communication course		2
<i>Complete the following course to fulfill the GEM 3 requirement:</i>		
MATH 170	Calculus I	5
<i>Complete the following courses to fulfill the GEM 4 requirement:</i>		
CHEM 111	General Chemistry I	3
CHEM 111L	General Chemistry I Lab	1
PHYS 211	Physics for Scientists and Engineers I	4
PHYS 211L	Physics for Scientists and Engineers I Lab	1
<i>Complete the following courses to fulfill the GEM 5 requirement:</i>		
GEM 5 - Humanistic & Artistic Ways of Knowing course		3
GEM 5 - Humanistic & Artistic Ways of Knowing course ¹		3
<i>Complete the following courses to fulfill the GEM 6 requirement:</i>		
SCIE 102	Ethics in Science ²	3
GEM 6 - Social & Behavioral Ways of Knowing course ¹		3
<i>Complete the following course to fulfill the Global Perspectives requirement:</i>		
Global Perspectives course		3
Major Requirements		
ENGR 120	Introduction to Engineering	3
ENGR 210	Engineering Mechanics: Statics	3
ENGR 290	Engineering Capstone	2
MATH 175	Calculus II	4
Select 8 credits from the Engineering Technical Electives list below to bring the total credits earned to 60		8
Minimum Credit Hours Required		60

¹ Course must come from a different discipline.

² This course fulfills the Ethical Reasoning requirement for an associate degree from CWI.

Engineering Technical Electives

Course	Course Title	Min Credits
CHEM 112	General Chemistry II	3
CHEM 112L	General Chemistry II Lab	2
CPSC 121	Computer Science I	4
CPSC 221	Computer Science II	3
ENGL 202	Technical Communication	3

ENGR 220	Engineering Mechanics: Dynamics	3
ENGR 240	Introduction to Electrical Circuits	3
GEOL 101	Physical Geology	3
GEOL 101L	Physical Geology Lab	1
MATH 275	Calculus III	4
MATH 285	Differential Equations with Matrix Theory	4
PHYS 212	Physics for Scientists and Engineers II	4
PHYS 212L	Physics for Scientists and Engineers II Lab	1

Plan of Study Guide

The course sequence listed below is strongly recommended in order to complete your program requirements. Please register for each semester as shown using the Student Planning tool in myCWI. Plans may be modified to fit the needs of part-time students by adding additional semesters. Consult your Student Success Advisor for any questions regarding this course sequence plan.

First Year

Fall		Credit Hours
COMM 100	Communication Matters (Recommended GEM 2) ¹	2
CWI 101	Connecting With Ideas	3
MATH 170	Calculus I (GEM 3)	5
PHYS 211	Physics for Scientists and Engineers I (GEM 4)	4
PHYS 211L	Physics for Scientists and Engineers I Lab (GEM 4)	1
Total Semester Credit Hours		15

Spring

CHEM 111	General Chemistry I (GEM 4)	3
CHEM 111L	General Chemistry I Lab (GEM 4)	1
ENGL 101	Writing and Rhetoric I (GEM 1)	3
ENGR 120	Introduction to Engineering	3
ENGR 210	Engineering Mechanics: Statics	3
GEM 5 - Humanistic & Artistic Ways of Knowing course		3
Total Semester Credit Hours		16

Second Year

Fall		Credit Hours
ENGL 102	Writing and Rhetoric II (GEM 1)	3
MATH 175	Calculus II	4
SCIE 102	Ethics in Science (GEM 6) ²	3
Engineering Technical Electives	Select 3-5 credits from the list below to bring the total credits earned to 60	3-5
Total Semester Credit Hours		14

Spring

ENGR 290	Engineering Capstone	2
GEM 5 - Humanistic & Artistic Ways of Knowing course ³		3
GEM 6 - Social & Behavioral Ways of Knowing course ³		3
Global Perspectives course		3
Engineering Technical Electives	Select 3-5 credits from the list below to bring the total credits earned to 60	3-5
Total Semester Credit Hours		15
Minimum Credit Hours Required		60

¹ This general education (GE) course is recommended by the department as the most beneficial GE option for students in this program. **Please note that students may fulfill their GE requirement by completing another course from within the applicable general education category.**

² This course fulfills the Ethical Reasoning requirement for an associate degree from CWI.

³ Course must come from a different discipline.

Engineering Technical Electives

Course	Course Title	Min Credits
CHEM 112	General Chemistry II	3
CHEM 112L	General Chemistry II Lab	2
CPSC 121	Computer Science I	4
CPSC 221	Computer Science II	3
ENGL 202	Technical Communication	3
ENGR 220	Engineering Mechanics: Dynamics	3
ENGR 240	Introduction to Electrical Circuits	3
GEOL 101	Physical Geology	3
GEOL 101L	Physical Geology Lab	1
MATH 275	Calculus III	4
MATH 285	Differential Equations with Matrix Theory	4
PHYS 212	Physics for Scientists and Engineers II	4
PHYS 212L	Physics for Scientists and Engineers II Lab	1

Additional Advising Notes:

- Students who plan to transfer should select elective courses based on the needs of their transfer institution. See 2+2 agreements with the appropriate institution for more information.
- Please be sure to check the courses required for your final degree at the four-year institution you plan to attend after finishing at CWI. It is **absolutely imperative** that you know which classes are required to obtain a bachelor's degree at that institution.
- It is possible to get prior learning assessment (PLA) credit for ENGL 101 if the student successfully passes ENGL 102. Visit the [CWI Prior Learning Assessment](#) webpage for more information.

Program Learning Outcomes

Upon successful completion of this program, students will be able to:

- Possess the knowledge and skills in basic engineering that will allow for success in further academic pursuits within the engineering discipline.
- Appreciate the role of engineering in social, environmental, and political issues through the completion of general education courses.
- Understand the scientific method and apply it within a controlled environment.
- Evaluate their results and determine appropriate conclusions.
- Understand and represent quantitative scientific data in various graphical forms.
- Develop and increase the skills of both verbal and written communication within the sciences.
- Develop and increase skills in critical thinking and analytical reasoning through problem solution and analysis.