SCIENCE, TECHNOLOGY, ENGINEERING, AND MATH (STEM) - ASSOCIATE OF SCIENCE DEGREE (AS)

Explore More About This Program: https://cwi.edu/program/science-technology-engineering-and-math-stem

Degree Plan

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 advisor for any questions regarding this course sequence plan.

First Year

Fall		**Credit Hours**
CWI 101	Connecting With Ideas	3
ENGL 101	Writing and Rhetoric I (GEM 1)	3
MATH 147 or MATH 170	College Algebra and Trigonometry (GEM 3) or Calculus I	5
Select one of the following lecture/lab combinations (GEM 4):		4-5
BIOL 111 & 111L	Biology I and Biology I Lab	
CHEM 101 & 101L	Introduction to Chemistry and Introduction to Chemistry Lab	
CHEM 111 & 111L	General Chemistry I and General Chemistry I Lab	
PHYS 111 & 111L	General Physics I and General Physics I Lab	
PHYS 211 & 211L	Physics for Scientists and Engineers I and Physics for Scientists and Engineers I Lab	
	Total Semester Credit Hours	**15**

Spring		
COMM 100	Communication Matters (Recommended GEM 2) [1]	2
ENGL 102	Writing and Rhetoric II (GEM 1)	3
MATH 170 or MATH 175	Calculus I [2] or Calculus II	4-5
GEM 5 - Humanistic & Artistic Ways of Knowing course		3
Select one of the following lecture/lab combinations: [3]		4-5
BIOL 112 & 112L	Biology II and Biology II Lab	
CHEM 102 & 102L	Essentials of Organic and Biochemistry and Essentials of Organic and Biochemistry Lab	
CHEM 112 & 112L	General Chemistry II and General Chemistry II Lab	
PHYS 112 & 112L	General Physics II and General Physics II Lab	
PHYS 212 & 212L	Physics for Scientists and Engineers II and Physics for Scientists and Engineers II Lab	
	Total Semester Credit Hours	**17**

Second Year		
Fall		
SCIE 102	Ethics in Science (GEM 6) [4]	3
GEM 5 - Humanistic & Artistic Ways of Knowing course [5]		3
Global Perspectives course		3
STEM Elective	Select a GEM 3, GEM 4, or STEM course from the list below	3-5
Elective	Select an elective course	3
	Total Semester Credit Hours	**15**
Spring		
SCIE 290	STEM Capstone	1
GEM 4 - Scientific Ways of Knowing course [5]		3-5
GEM 6 - Social & Behavioral Ways of Knowing course [5]		3
STEM Elective	Select a GEM 3, GEM 4, or STEM course from the list below	3-5
Elective	Select 3-4 credits to bring the total credits earned to 60, if needed	3-4
	Total Semester Credit Hours	**13**
	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 If MATH 170 was completed in order to meet the GEM 3 requirement, student must complete MATH 175 in order to fulfill this major requirement. MATH 170 will not fulfill both the GEM 3 requirement and the major requirement.

3 Select the second BIOL, CHEM, or PHYS lecture/laboratory course combination in sequence to complement the GEM 4 lecture/lab taken in the prior semester.

4 This course fulfills the Ethics Reasoning requirement for an associate degree from CWI.

5 Course must come from a different discipline.

STEM Elective Courses

The following list notes the courses which, in addition to the Mathematical Ways of Knowing (GEM 3) and Scientific Ways of Knowing (GEM 4) courses, will count as approved STEM courses. Students should choose **6-8 credits** of coursework from the GEM 3, GEM 4, or STEM course list below:

Course	Course Title	Min Credits
AMET 121	DC Circuits and Application	5
AMET 231	Industrial Robotics	5
AMET 236	Fluid Power Systems	2
BIOL 112	Biology II	3
BIOL 112L	Biology II Lab	1
BIOL 113	Biology III: Principles of Structure and Function	3
BIOL 113L	Biology III: Principles of Structure and Function Lab	1
BIOL 228	Human Anatomy and Physiology II	3
BIOL 228L	Human Anatomy and Physiology II Lab	1
BIOL 280	Pathophysiology	4
CHEM 112	General Chemistry II	3
CHEM 112L	General Chemistry II Lab	2
CHEM 253	Quantitative Analysis	3
CHEM 253L	Quantitative Analysis Lab	2
CHEM 298	Organic Chemistry I	3
CHEM 298L	Organic Chemistry I Lab	2
CHEM 299	Organic Chemistry II	3
CHEM 299L	Organic Chemistry II Lab	2
CPSC 111	Introduction to Python Programming	3
CPSC 121	Computer Science I	4
CPSC 221	Computer Science II	3
ENGR 210	Engineering Mechanics: Statics	3
ENGR 220	Engineering Mechanics: Dynamics	3

ENVI 260	General Ecology	3
ENVI 260L	General Ecology Lab	1
ENVI 280L	Field Biology	3
EXHS 243	Applied Kinesiology	3
FERM 110	Grapes and Hops: Specialty Crops	3
GEOS 208	Hydrology and Water Resources	4
GEOS 275	Field Geology	4
GIS 126	Fundamentals of GIS	3
GIS 226	Spatial Analysis With GIS	3
GIS 240	Python Scripting for GIS	3
MATH 175	Calculus II	4
MATH 176	Discrete Mathematics	4
MATH 230	Introduction to Linear Algebra	3
MATH 275	Calculus III	4
MMBS 250	General Microbiology	3
MMBS 250L	General Microbiology Lab	1
MMBS 260	Introduction to Cell Biology	3
MMBS 260L	Introduction to Cell Biology Lab	1
MMBS 270	Introduction to Pharmacology	3
MMBS 280	Genetics	3
MMBS 280L	Genetics Lab	1
NURS 100	Fundamentals of Nursing and Health Assessment	3
NURS 103	Nursing and Health Assessment Skills Lab/Clinical	3
NURS 106	Basic Pharmacology for Nursing	3
NURS 201	Nursing Specialties Clinical	2
NURS 203	Advanced Medical Surgical Nursing Lab/Clinical	4
PHYS 212	Physics for Scientists and Engineers II	4
PHYS 212L	Physics for Scientists and Engineers II Lab	1
SCIE 200	Vertically Integrated Projects (VIP)	1
SWDV 105	Introduction to Programming	4