

ENGINEERING SCIENCE, AS

Program code: ENSC-AS-COT

Location: Gateway, Housatonic, Manchester, Middlesex, Naugatuck Valley, Northwestern, Norwalk, Quinebaug Valley, Three Rivers, Tunxis

Program Description

As part of the Connecticut College of Technology (COT), the Engineering Science A.S. degree program prepares students primarily for transfer to complete a B.S. degree in chemical, civil, computer science, electrical, mechanical, industrial or materials engineering. Graduates will receive a background in engineering, mathematics, science, and general education courses for seamless transfer with junior status in a B.S. degree at COT partner universities.

Program Learning Outcomes

1. Apply engineering, mathematical, scientific and technological principles and concepts to identify and formulate solutions to engineering problems.
2. Apply critical thinking and problem-solving skills to solve engineering problems.
3. Demonstrate the ability to function on teams.
4. Recognize the need to engage in life-long learning.

Program Descriptors

Through COT's articulation agreement with partner universities, students who get an Associate degree in Engineering Science (with certain GPA's) can transfer seamlessly at junior level to the following institutions: University of Connecticut, Central Connecticut State University, Southern Connecticut State University, Eastern Connecticut State University, Fairfield University, University of Hartford, University of New Haven, University of Bridgeport, Sacred Heart University, and Charter Oak State College.

Degree Requirements

Code	Title	Credits
General Education Core Courses		
ENG 1010	Composition	3
MATH 2600	Calculus I	4
PHIL 1101	Ethics	3
CHEM 1210	General Chemistry I	4
Elective HISX - Historical Knowledge Course		3
ENG 1020 or ENG 1080	Composition II and Literature Composition II: Technical Writing	3
CCS 1001	College and Career Success	3
Program Courses		
Elective BHEL - Behavioral Science Elective (ANTH, PSY, SOC-ANTH recommended for transfer)		3
Elective SSCI - Social Science Elective (Economics Recommended)		3
PHYS 2201	Calculus-Based Physics I	4
PHYS 2202	Calculus-Based Physics II	4
MATH 2610	Calculus II	4
MATH 2620	Calculus III: Multivariable	4

MATH 2622	Differential Equations	4
EGR 1110	Introduction to Engineering	3
EGR 2215	Thermodynamics I	4
EGR 2211	Engineering Statics	3
Choose one of the following introductory programming courses:		3
CSC 1201	Introduction to Programming	
CSC 1203	Python Fundamentals	
CSC 1211	Java I	
CSC 2212	Java II	
CSC 2214	C++ Programming	
EGR 1115	Programming for Engineers	
EGR 2230	C++ for Engineering	
EGR 2201	MATLAB for Engineers	
EGR 2250	Computation Methods for Engineering	

Specialization Electives ¹

Choose six to eight credits of the following:		6-8
Any EGR#course		
Any CAD course		
BIO 1210	General Biology I	
BIO 1220	General Biology II	
CHEM 1220	General Chemistry II	
CHEM 1210	General Chemistry I	
EETA 2052	Digital Electronics	
MATH 2621	Linear Algebra	
MFG 1010	Parametric Design	

Total Credits **68-70**

¹ For transferability in a specialty, the sequences below are recommended.

Code	Title	Credits
BioMedical / BioMechanics		
BIO 1210 & CHEM 1220	General Biology I and General Chemistry II	8
Mechanical / Robotics/ #Aerospace / Manufacturing / AE&M		
EGR 2212 & EGR 2221	Engineering Dynamics and Introduction to Electrical Circuit Analysis	7
Electrical		
EGR 2221 & EETA 2052	Introduction to Electrical Circuit Analysis and Digital Electronics	8
Civil		
CAD 1330 & BIO 1220	2D CAD (AutoCAD) and General Biology II	7
Chemical		
CHEM 1220 & CHEM 2310	General Chemistry II and Organic Chemistry I	8
Environmental		
BIO 1220 & CHEM 1220	General Biology II and General Chemistry II	8