

# ENGINEERING - AS (0399)

Division: Mathematics, Engineering Technologies and Computer Sciences (METCS) Division

Code	Title	Credits
<b>General Education Requirements (31 Credits)</b>		
<i>Written &amp; Oral Communication (6)</i>		
ENG 101	College Composition I	3
ENG 102	College Composition II	3
<i>Quantitative/Scientific Knowledge, Skills &amp; Reasoning (16)</i>		
MTH 121	Calc with Analytic Geom I	4
MTH 122	Calc with Analytic Geom II	4
CHM 103	General Chemistry I	4
PHY 103	General Physics I	4
<i>Society &amp; Human Behavior (3)</i>		
Select one of the following:		3
ANT 101, ANT 105, ECO 101, ECO 102, POL 104, PSY 101, PSY 102, PSY 219, SOC 101, SOC 108, SOC 219		
<i>Humanistic Perspective (3)</i>		
Select any English Literature course		3
or Select one of the following courses:		
ART 100, ART 101, ART 102, ART 200, CIN 101, CIN 103, DRA 100, FRN 101, FRN 102, MUS 100, MUS 109, MUS 110, MUS 117, PHI 101, REL 105, SPN 101, SPN 102		
<i>Historical Perspective (3)</i>		3
Select any History (HST) course		
<b>Major Requirements (26 Credits)</b>		
CSC 112	Computer Prog. for Engr. Tech.	3
ENR 100	Fund. of Engineering Design	2
ENR 103	Engr. Graphics & Intro. to CAD	2
ENR 105	Applied Computer Aided Design	2
MTH 222	Differential Equations	4
PHY 104	General Physics II	4
Major Elective		3
Major Elective		3
Major Elective		3
<b>Additional Course Requirements (4 Credits)</b>		
MTH 221	Calc with Analytic Geom III	4
<b>Total Credits</b>		<b>61</b>

- If you do not place into MTH 121 Calc with Analytic Geom I the prerequisites are MTH 100 Intro. to College Mathematics, MTH 119 Pre-Calculus I and MTH 120 Pre-Calculus II. Math Placement is determined by the Mathematics Department. These courses should be taken in high school or the summer before your first semester at ECC.

## MAJOR ELECTIVES

- Mechanical

ENR 211 Engineer Mechanics I - Statics

ENR 212 Engineer Mechanics II-Dynamics

ENR 221 Strength of Materials

MET 203 Engineering Materials and Proc

- Biomedical (for all tracks)

MTH 141 Mathematical Statistics

MTH 239 Introduction to Linear Algebra

CHM 104 General Chemistry II

- Civil

CET 111 Construction Methd & Materials

CET 211 Surveying

CET 231 Structures

ENR 211 Engineer Mechanics I - Statics

ENR 221 Strength of Materials

ENR 212 Engineer Mechanics II-Dynamics

- Chemical

ELC 218 Pulse and Digital Circuits

MTH 141 Mathematical Statistics

MTH 239 Introduction to Linear Algebra

CHM 104 General Chemistry II

- Electrical

ELC 218 Pulse and Digital Circuits

ELC 228 Intro to Microprocessors

ELC 230 Circuits & Systems for Engr.

- Computer

ELC 218 Pulse and Digital Circuits

ELC 228 Intro to Microprocessors

ELC 230 Circuits & Systems for Engr.

- General

*Consult with your Division*

- <sup>1</sup> Major Electives are to be selected in consultation with a faculty advisor in the Division of METCS.

## Notes:

1. For an explanation of why General Education courses are included in this Program, please refer to the Section on General Education for an explanation of its Purpose and Requirements.
2. This plan assumes the student is eligible to enroll in College Level Courses (designated as 100 +, e.g., ENG 101 College Composition I, HST 101 World Civilization I, MTH 100 Intro. to College Mathematics).

Placement results will determine College Level Readiness in English and Mathematics.

***Upon completion of this program, graduates will be able to:***

- Analyze engineering drawings including concept of scale and orthographic projection;
- Assist engineers and technicians in performing tasks relevant to selected branch of engineering;
- Complete written engineering reports using skills acquired in curriculum courses;
- Write computer programs to solve engineering-based problems using skills acquired in curriculum courses;
- Demonstrate knowledge of engineering principles such as mechanics, materials, and systems; and
- Utilize computer software applications used in engineering including computer aided design (CAD).