## **Engineering**

## Area of Concentration within the A.S. in STEM Frederick Community College Pathway



**Guided Pathway to Success** (GPS) Suggested schedules map your path to degree completion.

**Full-time student:** Follow the green semester blocks in order.

Part-time student: Follow the blue course sequence at your own pace.

Students should meet with an advisor each semester to carefully select and sequence courses based on their specific academic goals and interests. Visit Jefferson Hall or call 301.846.2471 (301.846.2625 TDD) for advising.

Students who take fewer than
15 credits each semester or who
require developmental English or
Math coursework will need additional
semesters to complete their degrees.
Summer and January term classes may
help students to make faster progress.

General Education CORE courses can often be taken in any semester. One course must be designated as a Cultural Competence course. A minimum of nine credits must be taken at the 200 level. Refer to the college catalog for course details and the list of General Education and Cultural Competence classes. http://www.frederick.edu/class-schedules.aspx#catalog

Students are strongly recommended to consult an FCC advisor to select elective courses. Students planning to transfer may also reference ARTSYS, the Maryland Articulation System, www.artsys.usmd.edu.



Take this course within the first 24 credits.



Milestone course – take within recommend credit range to stay on track for completion.



This course is offered in the fall semester only.



This course is offered in the spring semester only.

0	Recommende	ed First Semester									
1	Gen Ed CORE	EN 101 English Composition		3 credits							
2	Gen Ed CORE	MA 210 Calculus I (Prerequisite MA 111)*	()	4 credits							
3	Concentration	EG 100 Introductory Engineering Sciences (Prerequisite MA 111)*	<b>✓</b>	3 credits							
4	Gen Ed CORE	Social & Behavioral Sciences Gen Ed		3 credits							
5	Gen Ed CORE	Arts Gen Ed		3 credits							
2 Recommended Second Semester											
6	Gen Ed CORE	CH 101 General Chemistry		4 credits							
7	Gen Ed CORE	Social & Behavioral Sciences Gen Ed in a different discipline from the first		3 credits							
8	Concentration	MA 211 Calculus II	<b>/</b>	4 credits							
9	Concentration	MA 214 Introduction to MATLAB		1 credit							
10	Gen Ed CORE	Communications Gen Ed		3 credits							
3	Recommende	ed Third Semester									
11	Concentration	MA 213 Differential Equations	<b>✓</b>	3/4 credits							
12	Gen Ed CORE	PY 203 Introductory Physics I**		4 credits							
13	Concentration	Choose a STEM elective in consultation with an advisor***		4 credits							
14	Concentration	Choose a free elective in consultation with an advisor****		4 credits							
4	Recommende	ed Fourth Semester									
15	Gen Ed CORE	Humanities Gen Ed		3 credits							
16	Concentration	Choose a STEM elective in consultation with an advisor***		4 credits							
17	PE/Health	PE/Health Requirement		1/3 credits							
18	Gen Ed CORE	General Education Elective		3 credits							
19	Concentration	Choose a free elective in consultation with an advisor (credits may vary; to fulfill 60 credits for degree)****		3 credits							

<sup>\*</sup>Students who have not taken MA 111 Precalculus will take it as an elective before starting the Calculus sequence.

<sup>\*\*</sup> Students who have not taken high school physics are strongly recommended to take PY 101 as an elective prior to enrolling in PY 203.

<sup>\*\*\*</sup> Choose a course from Biology (BI), Chemistry (CH), Computer & Information Sciences (CIS), Engineering (EG), Mathematics (MA), or Physics (PY). A minimum of 6 credits must be in the same discipline.

<sup>\*\*\*\*</sup>Depending on transfer institution, electives may include EG 110 Engineering Statics (fall only), EG 211 Engineering Dynamics, EG 210 Mechanics of Materials (spring only), MA 212 Calculus III, PY Introductory Physics, or PY 205 Modern Physics (spring only)

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The course rotation lists FCC's planned offerings by semester, as well as the format in which the course is available (day, evening, and/or online). This is an advising tool to help students anticipate when and how classes are offered. Please reference this document alongside the program pathway, and in consultation with a faculty or staff advisor. Be aware that while FCC will adhere to the rotation as closely as possible, the college cannot guarantee that all classes will be offered in the predicted times and formats. The schedule of courses in a given semester supersedes the rotation in the event of discrepancies.

Course #	Course Name	Summer 2018	Fall 2018	Jan Session 2019	Spring 2019	Summer 2019	Fall 2019	Jan Session 2020	Spring 2020
EG100	Introductory Engineering Science		* •		* •		* (		* •
EG110	Engineering Statics		C				*		
EG 210	Mechanics of Materials				C				*
EG211	Engineering Dynamics				*				C
MA 211	Calculus II	<b>k</b>	* (		* (	<b>k</b>	* (		* (
MA 211	Calculus III		*		*		*		*
MA 213	Differential Equations	<b>k</b>			C	<b>k</b>			C
MA 214	Introduction to MATLAB	<b>k</b>	k		<b>k</b>	<b>k</b>	<b>*</b>		k
PY 203	Introductory Physics I	*	* (		* (	<del>*</del>	* C		* (
PY 204	Introductory Physics II	*	*		C	*	*		C