

Engineering Area of Concentration, A.S. STEM

Frederick Community College Suggested Transfer Pathway



Catalog Year 2021-2022

	FCC Course	Credits	UMD College Park Clark School of Engineering	UMBC Engineering	Frostburg B.S. Engineering
Semester 1	1 ENGL 101 English Composition	3	ENGL 101*	ENGL 101*	ENGL 101
	2 MATH 185 Calculus I	4	MATH 185*	MATH 185* (gateway course)	MATH 185
	3 ENGR 100 Introductory Engineering Design	3	ENGR 100*	ENGR 100 (Does not transfer, but is required for FCC)	ENGR 100
	4 Social & Behavioral Sciences Gen Ed	3	Choose	Choose	ANTH 101, GEOG 102, HIST 217, SOCY 210, or SOCY 212
	5 Arts Gen Ed	3	Choose	Choose	Choose
Semester 2	6 CHEM 101 General Chemistry I	4	CHEM 101*	CHEM 101* (gateway course)	CHEM 101
	7 Social & Behavioral Sciences Gen Ed in a different discipline from the first	3	Choose	Choose	Choose
	8 MATH 195 Calculus II	4	MATH 195 (gateway course)**	MATH 195** (gateway course)	MATH 195
	9 MATH 220 Introduction to MATLAB	1	MATH 220	MATH 220*	MATH 220 (Does not transfer, but is required for FCC)
	10 Communications Gen Ed	3	COMM Gen Ed	Choose	Choose
Semester 3	11 MATH 275 Differential Equations	3	MATH 275	MATH 275*	MATH 275
	12 PHYS 151 General Physics I	4	PHYS 151 (gateway course)**	PHYS 151*	PHYS 151
	13 CHEM 102 General Chemistry	4	CHEM 102 (gateway course)*	CHEM 102	CHEM 102
	14 Choose a free elective in consultation with an advisor	4	See chart below	See chart below	Choose
Semester 4	15 Humanities Gen Ed	3	Choose	Choose	Choose
	16 Choose a STEM elective in consultation with an advisor***	4	PHYS 252*	PHYS 252*	CHEM 102, ENGR 210, ENGR 212, or PHYS 252
	17 Physical Education, Health, or Nutrition Requirement	1/3	Choose	Choose	Choose
	18 General Education Elective	3	MATH 285	MATH 285*	See ARTSYS Go to "Keyword Search – Frostburg State University GED – FSU Colloquia Area"
	19 Choose a free elective in consultation with an advisor	3	See chart below	See chart below	Choose

Important Notes: The schools represented here are only a small sample of transfer options. Information is subject to change, and this suggested pathway is a guide, not a contract. Students should use this in consultation with an FCC advisor, the FCC catalog, [ARTSYS](#) (the state-wide online transfer system), and an advisor at the transfer institution. See the "Pathway Notes" section for more detailed information.

Full-time student: Follow the green semester blocks in order. **Part-time student:** Follow the blue course sequence at your own pace.

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Pathway Notes

* must earn a grade of "C" or higher in this course

** must earn a grade of "B" or higher in this course

*** Depending on a student's transfer goals, recommended courses will vary. See the chart below for reference and talk to your advisor of your transfer institution or program is not listed.

FCC Course	University of Maryland, College Park								UMBC		
	Aerospace Engineering	Bioengineering	Chemical Engineering	Civil Engineering	Computer Engineering	Electrical Engineering	Materials Science	Mechanical Engineering	Chemical Engineering	Computer Engineering	Mechanical Engineering
ENGR 110	x	x		x				x	x		x
ENGR 210	x	x		x				x			x
ENGR 212				x				x			x
ENGR 214	x										x
MATH 265										x	
MATH 285	x	x	x	x		x	x	x	x	x	x
PHYS 252	x	x	x	x	x	x	x	x	x	x	x
PHYS 253	x		x			x	x	x			
CHEM 102	x	x	x	x	x	x	x	x	x	x	x
CHEM 201		x	x				x		x		
CHEM 202			x						x		
CMIS 201										x	
CMIS 202										x	

Options in Engineering

Because the coursework required for engineering varies significantly depending on a student's desired engineering focus, it is very important that FCC students meet with the engineering program manager or transfer advisor before registering for classes. The coursework on the previous page represents only a few programs. Regionally, students can select to transfer into programs as diverse as Aerospace Engineering, Biotechnology, Bioengineering, Chemical Engineering, Civil Engineering, Computer Engineering, Computer Science, Entrepreneurship & Innovation, Environmental Engineering & Sustainability, Electrical Engineering, Fire Protection Engineering, Materials Science and Engineering, Mechanical Engineering, and more. Students interested in exploring engineering career options can visit <https://tryengineering.org/>.

Transfer Institution Information

“Gateway courses” are those courses required for admission into a limited enrollment program or selective major.

University of Maryland College Park is a limited enrollment program and requires a GPA of 3.0 or better and a grade of “B” or better in gateway courses (MATH 195 and PHYS 151) and a “C” or better in CHEM 102. Only one gateway course may be repeated to earn the required grade and that course may be repeated only once (withdraws and audits included). Also, students may only apply once to a Limited Enrollment Program; www.lep.umd.edu. Undergraduate majors include Aerospace Engineering, Bioengineering, Chemical Engineering, Civil Engineering, Computer Engineering, Electrical Engineering, Fire Protection Engineering, Materials Science and Engineering, and Mechanical Engineering. Program requirements vary by area; please meet with an advisor for more information.

UMBC Engineering Programs may be limited admission and requires an overall GPA of 2.0 or better. Engineering majors include Biotechnology & Bioengineering, Chemical Engineering, Computer Engineering, Computer Science, Entrepreneurship & Innovation, Environmental Engineering & Sustainability, and Mechanical Engineering. Program requirements vary by area; please meet with an advisor for more information. The four courses indicated as gateway courses are required for admission into the UMBC School of Engineering, however for transfer students, all ENGR, CHEM, MATH and PHYS courses being transferred will also be considered as gateway for purposes of review for admission into the major. ENGR 100 is not transferable. Students must take ENES 101 at UMBC or may take EGR 103 at Hagerstown Community College.

Advising

Students should meet with an advisor each semester to carefully select and sequence courses based on their specific academic goals and interests.

The Counseling & Advising Office offers general advice: emailadvising@frederick.edu • 301.846.2471 • frederick.edu/advising

Program managers offer specific academic area advice: frederick.edu/programs

Completing the Pathway

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 (frederick.edu/class-schedules) for course details and the list of General Education and Cultural Competence classes.

Reverse Transfer

FCC students who transfer to another school may transfer credits *back to FCC* from that school to fulfill FCC associate degree requirements. Visit frederick.edu/credit-admissions/reverse-transfer or contact an advisor for more information.