### **STEM Technology**

**Associate of Applied Science 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	Recommend	ed First Semester		
1	Gen Ed CORE	EN 101 English Composition	()	3 credits
2	Gen Ed CORE	Mathematics Gen Ed	()	3 credits
3	Departmental Requirement	Choose STEM courses in consultation with an advisor (recommend CIS 106, Object Design and Programming)		9 credits
2	Recommend	ed Second Semester		
4	Gen Ed CORE	Social & Behavioral Science Gen Ed		3 credits
5	Gen Ed CORE	Biological & Physical Science Gen Ed		3 credits
6	Departmental Requirement	Choose STEM courses in consultation with an advisor		9 credits
3	Recommend	ed Third Semester		
7	Gen Ed CORE	Art Gen Ed		3 credits
8	Gen Ed CORE	Humanities Gen Ed		3 credits
9	Departmental Requirement	Choose STEM courses in consultation with an advisor		6 credits
10	Departmental Requirement	Choose an elective in consultation with an advisor		3 credits
4	Recommend	ed Fourth Semester		
11	Gen Ed CORE	Communications Gen Ed		3 credits
12	PE/Health	PE/Health Requirement		1 credits
13	Departmental Requirement	Choose electives in consultation with an advisor		11 credits

## **Biology**



Course #	Course Name	Summer 2018	Fall 2018	Jan Session 2019	Spring 2019	
BI 55	Preparation For Allied Health	*	* (		* (	
BI 100	Fundamental Concepts of Biology	* (	* ( )		* ( )	•
BI 101	General Biology I	* (	* (		* (	
BI 102	General Biology II	*	*		*	
BI 103	Anatomy and Physiology I	* (	* (		* (	
В 104	Anatomy and Physiology II	* (	* (		* (	
BI 107	Human Biology		*		*	
BI 117	Study of the Human Body		* ( )		* ( )	•
BI 120	Microbiology for Allied Health	* (	* (		* (	
BI 130	Forensic Biology	<b>k</b>	* •		*	<b>\</b>
BI 140	Biotechnology and Society	*	<b>k</b>		)	•

## **Biology**



Course #	Course Name	Summer 2018	Fall 2018	Jan Session 2019	Spring 2019
BI 201	General Ecology		*		*
BI 202	Human Ecology	*	*	*	*
BI 203	Elements of Microbiology		*		
BI 220	Cell Biology and Tissue Culture		( k		( k
BI 240	Genetics				*

## **Chemistry**



Course #	Course Name	Summer 2018	Fall 2018	Jan Session 2019	Spring 2019
CH 100	Chemistry and Society		*		
CH 101	General Chemistry I	* ( )	* ( )		* ( )
CH 102	General Chemistry II	* (	* (		* (
CH 201	Organic Chemistry I	*	* (		* (
CH 202	Organic Chemistry II	*	*		*



Course #	Course Name	Fall 2018		Jan Session 2019		Spring 2019				
CIS 101	Info Systems & Technology	*		k	*	(	k	*	C	k
CIS 106	Object Design & Programming	*	(	k				*	C	k
CIS 107	Introduction to Programming	*						*		
CIS 117	Data Science Essentials			k						
CIS 118	Data Analytics Using Spreadsheet			k						k
CIS 119	Statistical Analysis System		(						C	
CIS 140	Java Programming		(						C	
CIS 170	Security Fundamentals	*	(	k				*	C	K
CIS 173	Healthcare Information Technology			k						
CIS 175	Game Theory and Design		(						C	
CIS 176	Game Creation		(						C	



Course #	Course Name	Fall 2018	Jan Session 2019	Spring 2019	
CIS 177	Interactive 3D Technology	*		*	
CIS 178	3D Modeling and Animation	*		*	
CIS 179	Cybersecurity Fundamentals	* ( )		* ( )	+
CIS 180	Networking Fundamentals	* ( )		* ( )	+
CIS 190	Cisco 1 Network Fundamentals	k		C	
CIS 191	Cisco 2 Routing Technologies	*		C	
CIS 192	Cisco 3 Switching Technologies	C		h	+
CIS 193	Cisco 4 WAN Technologies	C		h	+
CIS 200	IT Support Services	k		h	+
CIS 201	Computer Science I	* (		* (	
CIS 202	Computer Science II	C		C	



Course #	Course Name	Fall 2018			Jan Session 2019	Spring	2019	
CIS 203	Systems Analysis & Design	*		k		*	C	k
CIS 204	CIS Project			k				k
CIS 208	C++ Programming		(				C	
CIS 212	PC Repair & Diagnostics	*	(	k		*	C	k
CIS 217	Cybercrime & Digital Forensics		(	k			C	k
CIS 218	Info Security & Assurance		(	k			C	k
CIS 219	Ethical Hacking & System Defense		(	k		*	C	K
CIS 222	Computer Organization		(				C	
CIS 223	Cloud Security		(	k			C	k
CIS 226	Game Scripting						C	
CIS 227	Game Programming		(					



Course #	Course Name	Fall 2018	Jan Session 2019	Spring 2019
CIS 228	Simulation & Game Development	C		
CIS 256	Statistical Computing	C		
CIS 111B	Database			k
CIS 111E	Spreadsheets	( h		C k
CIS 111L	UNIX/Linux Operating System	( h		L k
CIS 111M	PC Operating Systems	* ( )		* ( )
CIS 111R	Business Software Applications	<b>k</b>		k
CIS 225C	Computer Program Language: Mobile App	C		C

## **Engineering**



Course #	Course Name	Summer 2018	Fall 2018	Jan Session 2019	Spring 2019
EG100	Introductory Engineering Science		* (		* (
EG110	Engineering Statics		*		
EG 210	Mechanics of Materials				*
EG211	Engineering Dynamics				

### **Mathematics**



Course #	Course Name	Summer 2018	Fall 2018	Jan Session 2019	Spring 2019
MA 83	Educator Preparation in Mathematics		* •		* •
MA 103	Foundations of Mathematics	*	* •		*
MA 103A	Foundations of Mathematics	*	C		C
MA 105	Fundamental Concepts of Mathematics I		* (		* (
MA 106	Fundamental Concepts of Mathematics II		*		* (
MA 111	Precalculus	* 6 *	* ( )		* ( )
MA 130	College Algebra	*	* ( )		* ( )
MA 130S	College Algebra with Algebra Support	*	* (		*
MA 201	Applied Calculus		* •		*
MA 202	Introduction to Discrete Mathematics				*
BU/MA 205	Business Statistics	*	* ( )		* ( )

### **Mathematics**



Course #	Course Name	Summer 2018		Fall 201	.8		Jan Session 2	019	Spring :	2019	
MA 206	Elementary Statistics	* (	<b>k</b>	*	C	<b>k</b>	*	k	*	C	k
MA 206A	Elementary Statistics with Algebra	* (		*	C				*	C	
MA 207	Elementary Statistics with Probability			*					*		
MA 210	Calculus I	* (	<b>\</b>	*	C	<b>k</b>			*	C	<b>k</b>
MA 211	Calculus II		K	*	C				*	C	
MA 212	Calculus III			*					*		
MA 213	Differential Equations		k							C	
MA 214	Introduction to Matlab		K			K	k				<b>k</b>
MA 218	Linear Algebra			*							

## **Physical Science**



Course #	Course Name	Summer 2018	Fall 2018	Jan Session 2019	Spring 2019
PC 103	Elements of Physical Science		*		*
PC 104	The Water Planet: Introduction to Oceanography	<b>k</b>	*		*
PC 105	Introduction to Science of Weather		*		* (
PC 106	Introduction to Meteorology		<b>k</b>		<b>&gt;</b>
PC107	Introductory Astronomy	( k	* (		*
PC 108	Historical Geology				*
PC 109	Physical Geology		*		
PC 114	Contemporary Physical Science		* (		* (
PC 115	Introduction to Earth Systems Science		*		*
PC 121	Energy and Society				*

# **Physics**



Course #	Course Name	Summer 2018	Fall 2018	Jan session 2019	Spring 2019
PY 101	Survey of Physics	*			*
PY 201	Fundamentals of Physics I		C		
PY 202	Fundamentals of Physics II				
PY 203	Introductory Physics I	*	* (		* (
PY 204	Introductory Physics II	*	*		C