Computer Science

Associate of Science

Frederick Community College Pathway

Frederick Community College

Catalog Year 2018-2019

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.

1 Recommended First Semester

1	Gen Ed CORE	CIS 106 Object Design & Programming	✓	3 credits
2	Gen Ed CORE	EN 101 English Composition	🕒	3 credits
3	Gen Ed CORE	Mathematics Gen Ed (MA 111 recommended)	✓ 🕒	3 credits
4	Gen Ed CORE	Arts Gen Ed		3 credits
5	Gen Ed CORE	Social & Behavioral Sciences Gen Ed		3 credits

2 Recommended Second Semester

6	Departmental Requirement	CIS 201 Computer Science	✓	4 credits
7	Departmental Requirement	CIS 222 Computer Organization		4 credits
8	Gen Ed CORE	MA 210 Calculus*		4 credits
9	Gen Ed CORE	Biological/Physical Sciences (with a lab)		4 credits

3 Recommended Third Semester

10	Departmental Requirement	CIS 202 Computer Science II	3 credits
11	Departmental Requirement	Elective – CIS 111J, 111L, 111M, 140, 170, 179, 180 or any 200-level CIS	3 credits
12	Departmental Requirement	Mathematics Elective – MA 111, 130, 131, 202, 206, 207, 211, 212, 213, or 218	3 credits
13	Gen Ed CORE	Humanities Gen Ed	3 credits
14	PE/Health	PE/Health Requirement	1 credit

4 Recommended Fourth Semester

15	Departmental Requirement	Elective – CIS 111J, 111L, 111M, 140, 170, 179, 180 or any 200-level CIS	3 credits
16	Departmental Requirement	Elective – CIS 111J, 111L, 111M, 140, 170, 179, 180 or any 200-level CIS	3 credits
17	Gen Ed CORE	Biological/Physical Sciences Gen Ed	3/4 credits
18	Gen Ed CORE	Social & Behavioral Sciences Gen Ed (in a different discipline than the first)	3 credits
19	Gen Ed CORE	Communications Gen Ed	3 credits

* MA 210 Calculus has a prerequisite of MA111 or both MA 130 and MA 131

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2018-2019 Course Rotation

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
Course #	Course Name								
CIS 101	**Information Systems and Technology**								
CIS 106	**Object Design and Programming**								
CIS 107	**Introduction to Programming**								

 Day Option Available

 Night Option Available

 Online Option Available

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Course #	Course Name	Summer 2018	Fall 2018	Jan Session 2019	Spring 2019	Summer 2019	Fall 2019	Jan Session 2020	Spring 2020
Course #	Course Name	☀ ➤	☀ ➤	➤	☀ ➤	☀ ➤	☀ ➤	➤	☀ ➤
CIS 111B	**Microcomputer Software Applications: Database**				➤				➤
CIS 111E	**Microcomputer Software Applications: Spreadsheets**		☾ ➤		☾ ➤		☾ ➤		☾ ➤
CIS 111J	**Microcomputer Software Applications: Web Page Development**	☾				☾			
CIS 111L	**UNIX/Linux Operating System**		☾ ➤		☾ ➤		☾ ➤		☾ ➤
CIS 111M	**PC Operating Systems**		☀ ☾ ➤		☀ ☾ ➤		☀ ☾ ➤		☀ ☾ ➤
CIS 111R	**Business Software Applications**		➤		➤		➤		➤

☀ Day Option Available ☾ Night Option Available ➤ Online Option Available

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Course #	Course Name	☀ ➤	☀ ➤	➤	☀ ➤	☀ ➤	☀ ➤	➤	☀ ➤
CIS 117	**Data Science Essentials**		➤		➤		➤		➤
CIS 118	**Data Analytics Using Spreadsheets**		➤		➤		➤		➤
CIS 119	**Statistical Analysis System (SAS)**		☾		☾		☾		☾
CIS 140	**Java Programming**		☾		☾		☾		☾
CIS 170	**Security Fundamentals**		☀ ☾ ➤		☀ ☾ ➤		☀ ☾ ➤		☀ ☾ ➤
CIS 173	**Healthcare Information Technology**		➤		➤		➤		➤
CIS 175	**Game Theory and Design**		☾		☾		☾		☾
CIS 176	**Game Creation**		☾		☾		☾		☾

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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**		➤		☾		➤		
CIS 191	**Cisco 2 Routing Technologies**		➤		☾		➤		
CIS 192	**Cisco 3 Switching Technologies**		☾		➤		☾		➤
CIS 193	**Cisco 4 WAN Technologies**		☾		➤		☾		➤
CIS 200	**IT Support Services**		➤		➤		➤		➤
CIS 201	**Computer Science I**		☀ ☾		☀ ☾		☀ ☾		☀ ☾
CIS 202	**Computer Science II**		☾		☾		☾		☾
CIS 203	**Systems Analysis & Design**	➤	☀ ☾ ➤		☀ ☾ ➤		☀ ☾ ➤		☀ ☾ ➤

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2018-2019 Course Rotation

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CIS 204	**Computer & Information Sciences Project**		➤		➤		➤		➤
CIS 208	**C++ Programming**		☾		☾		☾		☾
CIS 212	**PC Repair & Diagnostics**		☀ ☾ ➤		☀ ☾ ➤		☀ ☾ ➤		☀ ☾ ➤
CIS 217	**Cybercrime and Digital Forensics Investigation**		☾ ➤		☾ ➤		☾ ➤		☾ ➤
CIS 218	**Information Security & Assurance**		☾ ➤		☾ ➤		☾ ➤		☾ ➤
CIS 219	**Ethical Hacking and Systems Defense**		☾ ➤		☾ ➤		☾ ➤		☾ ➤
CIS 222	**Computer Organization**		☾		☾		☾		☾
CIS 223	**Cloud Security**		☾ ➤		☾ ➤		☾ ➤		☾ ➤

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CIS 225C	**Computer Programming Language: Mobile Applet Programming**		☾		☾		☾		☾
CIS 226	**Game Scripting**				☾				☾
CIS 227	**Game Programming**		☾				☾		
CIS 228	**Simulation and Game Development**		☾		☾		☾		☾
CIS 230	**Database Management Systems**		☾		☾		☾		☾
CIS 256	**Statistical Computing**		☾				☾		
CIS 257	**Data Visualization**		☾				☾		

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Course #	Course Name	Summer 2018	Fall 2018	Jan Session 2019	Spring 2019	Summer 2019	Fall 2019	Jan Session 2020	Spring 2020
Course #	Course Name								
CIS 258	**Data Wrangling**								
CIS 259	**Big Data Analytics**								

 Day Option Available

 Night Option Available

 Online Option Available