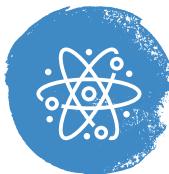


# **Pathway: Science, Technology, Engineering, & Math (STEM)**



## **Associate of Science, Computer Science**

There are more software jobs than can be filled with current graduates, with this remaining true for the foreseeable future. These are high-paying jobs housed in rich working environments. Software-related work is a highly creative endeavor and interesting design problems arise in every project. The creative aspect of the work is stimulating and can sustain an entire career. Traditional areas of computer science such as graphics, software engineering, networks, databases, multimedia, and artificial intelligence remain strong, with job growth being driven by advances in robotics and the fundamental impact of computer science in nearly every industry. There are many challenging problems remaining for computer scientists to solve. The Associate of Science in Computer Science provides a foundation for students to complete their baccalaureate degree at a four-year institution in the many specialized concentrations in the broad category of Computer Science.

### **Contact Information**

Contact information is available on the [Computer Science](#) program website.

### **Competencies**

Upon successful completion of this program, students will be able to:

1. Design algorithms to solve a variety of problems using programming constructs and data structures.
2. Implement previously designed algorithms into computer code.
3. Test computer code for accuracy and completeness.
4. Document computer programs.

Map your individual academic plan of courses with your College Advisor.

Students may need to take prerequisite courses before beginning college level math and English courses or moving through a program's course sequence. Check the [Course Descriptions](#) section of the catalog to see the course prerequisites. Students should work with their advising team on determining prerequisite requirements.

Certain courses may only be offered in Fall or Spring semester. Students who are part time or have unique circumstances should work with their Academic Advisors to develop their customized academic plan.

If students choose to transition to another program within the STEM pathway, they should be particularly aware of the choice points that indicate when a decision to branch off into another program must be made to ensure credits and time are not lost.

Coursework common to all degrees within this pathway is indicated by the ✓ in the Common Academic Coursework (CAC) column below.

### **First Semester**

Gen Ed	CAC	Course code	Course name	Credits	Milestones and Choice Points
SS	✓	STRT 1000	Strategies for Success	3	<b>Milestone-</b> Completion MATH 1400 or higher as a prerequisite for other courses.
QL	✓	MATH 1400	College Algebra or higher	3	
NSP	✓	CHEM 1020	Chemistry I	4	<b>Choice Point-</b> See Program Comments below regarding Math course options if students place higher than MATH 1400.
	✓	COSC 1010	Introduction to Computer Science	4	
			Semester Total	14	

### **Second Semester**

Gen Ed	CAC	Course code	Course name	Credits	Milestones and Choice Points
			Choose an elective course – COSC 2409 Recommended	3	
	✓	MATH 1405	Trigonometry or higher	3	<b>Choice Point-</b> See Program Comments below regarding Math course options if students place higher than MATH 1405.
WC	✓	ENGL 1010	English 1: Composition	3	
PS/NSL	✓	BIOL 1010	Biology	4	
OC	✓	COMM 2010	Public Speaking	3	
			Semester Total	16	

### Third Semester (Summer)

Gen Ed	CAC	Course code	Course name	Credits	Milestones and Choice Points
	✓	MATH 2200	Calculus I	4	<b>Choice Point-</b> Students who start below Calculus I should take Calc I during the summer to stay on track.

### Fourth Semester

Gen Ed	CAC	Course code	Course name	Credits	Milestones and Choice Points
HSI	✓		Choose from an approved U.S./ Wyoming Constitution course	3	
		COSC 1030	Computer Science I	4	
		MATH 2205	Calculus II	4	
	✓	STAT 2050	Fundamentals of Statistics	4	
			Semester Total	15	

### Fifth Semester

Gen Ed	CAC	Course code	Course name	Credits	Milestones and Choice Points
		COSC 2300	Discreet Structures	3	
		COSC 2030	Computer Science II	4	
		MATH	Choose any Math above MATH 2205 (except STAT or MATH 2300)	3-4	
HC	✓	ANTH 1200 OR GEOG 1000 OR ECON 1000	Introduction to Cultural Anthropology OR World Geography OR Global Economic Issues	3	<b>Milestone-</b> Completion of the LCCC general education core and eligible for the Interstate Passport. <b>Milestone-</b> Completion of AS Computer Science degree.
CE	✓		Choose a Creative Expression course	3	
			Semester Total	16-17	

Program credit hour total	65-66
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### Program Comments

The Computer Science program may take longer than two years for students whose initial math course is not Calculus I due to the prerequisites of the math courses. Students should enroll in the highest-level math course for which they qualify. Starting in a course above MATH 1400 will reduce the credit hours needed to complete this degree, and not require a summer semester. Students should work closely with their Advising Team.

The information below is intended to be a guide, and does not guarantee regional job placement, job availability, or a specific wage after completion of the program. Some careers in or related to Computer Science will require a Bachelor's or Master's degree. Typical job titles for graduates with a degree in Computer Science include Programmer, Software Engineer, IT consultant, Cybersecurity consultant, Information systems manager, Database administrator, multimedia programmer, Systems analyst, and Games developer.

Additional information on careers in Computer Science is available through [Career Coach](#).

### Transfer Information

The Computer Science program is well suited for transfer to a Bachelor's in Computer Science. LCCC courses may transfer to institutions in addition to those with formal articulation agreements. Students are strongly encouraged to determine the degree requirements and transfer policy of the specific college/university and program to which they plan to transfer.