![Colorado Mesa University logo]

2016-2017 PETITION/PROGRAM SHEET
Degree: Bachelor of Science
Major: Computer Science

About This Major . . .

Computer science is the study of algorithms and the issues involved in implementing them. The program includes core courses in algorithms, data structures, logic, programming languages, software design, and advanced mathematics. Electives in web page design, artificial intelligence, robotics, computer graphics, video game design, databases, security, multimedia, and networks are also possible. The program and course offerings are constantly evolving to keep up with the latest changes in the Computer Science field. The small class sizes allow for close interaction between faculty and students, with independent research projects and internships available.

A wide variety of exciting professional and academic opportunities exist for graduates of computer science including software engineering, software testing, computational finance, game design, computer graphics, robotics, artificial intelligence, internet systems and technology, security, hardware development, animation, medicine, biotechnology, business management and consulting, modeling, as well as master's and doctoral studies in computing-related fields. Our graduates have continued on to advanced degrees in top-tier schools and are employed at IBM, Microsoft, Sun, Lockheed-Martin, and many other technical companies.

For more information on what you can do with this major, go to http://www.coloradomesa.edu/career/whatmajor.html and/or http://www.coloradomesa.edu/cs .

All CMU baccalaureate graduates are expected to demonstrate proficiency in critical thinking, communication fluency, quantitative fluency, and specialized knowledge/applied learning. In addition to these campus-wide student learning outcomes, graduates of this major will be able to:

1. Write programs in multiple programming languages and be able to translate concepts between languages. (Applied Learning)
2. Develop the technical specification, and develop, design and test a software solution for a given problem. (Communication Fluency Quantitative Fluency)
3. Analyze and measure competing hardware and software components and defend a choice for a given situation. (Critical Thinking)
4. Independently learn and use new technologies. (Specialized Knowledge)
5. Work in teams to solve large scale problems. (Applied Learning)

NAME: _____   **STUDENT ID #** _____

LOCAL ADDRESS AND PHONE NUMBER: _____

_____ ( ) _____

I, (Signature)_____, hereby certify that I have completed (or will complete) all the courses listed on the Program Sheet. I have read and understand the policies listed on the last page of this program sheet. I further certify that the grade listed for those courses is the final course grade received except for the courses in which I am currently enrolled and the courses which I complete next semester. I have indicated the semester in which I will complete these courses.

_____   _____20_____
Signature of Advisor   Date

_____   _____20_____
Signature of Department Head   Date

_____   _____20_____
Signature of Registrar   Date

DEGREE REQUIREMENTS:
- 120 semester hours total (Students must complete a minimum of 30 of the last 60 hours of credit at CMU, with at least 15 semester hours in major discipline courses numbered 300 or higher).
- 40 upper division credits (A minimum of 15 taken at the 300-400 course levels within the major at CMU).
- Pre-collegiate courses (usually numbered below 100) cannot be used for graduation.
- 2.00 cumulative GPA or higher in all CMU coursework
- 2.50 cumulative GPA or higher in coursework toward the major content area. No more than one "D" may be used in completing major requirements.
- When filling out the program sheet a course can be used only once.
- A student must follow the CMU graduation requirements either from 1) the program sheet for the major in effect at the time the student officially declares a major; or 2) a program sheet for the major approved for a year subsequent to the year during which the student officially declares the major and is approved for the student by the department head. Because a program may have requirements specific to the degree, the student should check with the faculty advisor for additional criteria. It is the student's responsibility to be aware of, and follow, all requirements for the degree being pursued. Any exceptions or substitutions must be approved by the student's faculty advisor and Department Head.
- See the "Undergraduate Graduation Requirements" in the catalog for additional graduation information.
- Essential Learning Capstone should be completed between 45 and 75 hours.
- See "Requirements for Undergraduate Degrees and Certificates" in the catalog for additional graduation information.

ESSENTIAL LEARNING REQUIREMENTS (31 semester hours):
See the current catalog for a list of courses that fulfill the requirements below. If a course is an Essential Learning option and a requirement for your major, you must use it to fulfill the major requirement and make a different selection for the Essential Learning requirement.

Course No Title	Sem.hrs	Grade	Term/Trns

English (6 semester hours, must receive a grade of "C" or better and must be completed by the time the student has 60 semester hours.)
ENGL 111 English Composition	3	____	_____
ENGL 112 English Composition	3	____	_____

Math (3 semester hours, must receive a grade of "C" or better, must be completed by the time the student has 60 semester hours.)
MATH 151 Calculus I	5*		
OR		____	_____
MATH 135 Engineering Calculus I	4*		

*3 credits apply to the Essential Learning requirements and 2/1 credits apply to Foundation Courses

Humanities (3 semester hours)
_____ ____ _____ ____ _____ _____

Social and Behavioral Sciences (6 semester hours)
_____ ____ _____ ____ _____ _____
_____ ____ _____ ____ _____ _____

Natural Sciences (7 semester hours, one course must include a lab)
_____ ____ _____ ____ _____ _____
_____ ___L _____ ____ _____ _____

History (3 semester hours)
HIST ____ _____ ____ _____ _____

Course No Title	Sem.hrs	Grade	Term/Trns

Fine Arts (3 semester hours)
_____ ____ _____ ____ _____ _____

WELLNESS REQUIREMENT (minimum of 2 semester hours)
KINE 100 Health and Wellness	1	____	_____
KINA 1____ _____	1	____	_____

ESSENTIAL LEARNING CAPSTONE (4 semester hours)
ESSL 290 Maverick Milestone (see English & math pre-reqs)	3	____	_____
ESSL 200 Essential Speech (co-requisite)	1	____	_____

FOUNDATION COURSES (16-18 semester hours)
CSCI 111 CS1: Foundations of Computer Science	4	____	_____
CSCI 112 CS2: Data Structures	4	____	_____
MATH 151 Calculus I	2*		
OR		____	_____
MATH 135 Engineering Calculus I	1*		
MATH 152 Calculus II	5		
OR		____	_____
MATH 136 Engineering Calculus II	4		
STAT 200 Probability & Statistics	3	____	_____

COMPUTER SCIENCE MAJOR REQUIREMENTS
(41-42 semester hours) A 2.50 GPA is required in the major courses. No more than one "D" may be used in completing major requirements.

CSCI 241 Computer Architecture & Assembly Language	4	____	_____
CSCI 250 CS3: Intro to Algorithms	3	____	_____
CSCI 310 Advanced Programming:	4**		
CSCI 310 _____		____	_____
CSCI 310 _____		____	_____
CSCI 330 Programming Languages	3	____	_____
CSCI 470 Operating Systems Design	3	____	_____
CSCI 484 Computer Networks	3	____	_____
CSCI 490 Software Engineering	3	____	_____
MATH 369 Discrete Structures I	3	____	_____

**CSCI 310 is offered for different languages for 1-3 credit hours. A student may meet the required in any combination number of languages/courses/hours, to reach a total minimum of 4 hrs taken. No language may be counted for credit more than once.

Five courses from Computer Science Choice List below: (15-16 semester hours)
_____ ____ _____ ____ _____ _____
_____ ____ _____ ____ _____ _____
_____ ____ _____ ____ _____ _____
_____ ____ _____ ____ _____ _____
_____ ____ _____ ____ _____ _____

Electives (All college level courses appearing on your final transcript, **not listed above** that will bring your total semester hours to 120 hours.) (23–26 semester hours; 5-6 hours of upper division may be needed.)
_____ ____ _____ ____ _____ _____
_____ ____ _____ ____ _____ _____
_____ ____ _____ ____ _____ _____
_____ ____ _____ ____ _____ _____
_____ ____ _____ ____ _____ _____
_____ ____ _____ ____ _____ _____

Computer Science Choice List:

CSCI 306 Web Page Design III (3)
CSCI 322 Embedded Systems (3)
CSCI 333 UNIX Operating Systems (3)
CSCI 337 User Interface Design (3)
CSCI 345 Video Game Design (3)
CSCI 370 Computer Security (3)
CSCI 375 Object Oriented Programming (3)
CSCI 380 Operations Research (3)
CSCI 445 Computer Graphics (3)
CSCI 450 Compiler Structure (3)
CSCI 460 Database Design (3)
CSCI 480 Theory of Algorithms (3)
CSCI 486 Artificial Intelligence (3)
MATH 361 Numerical Analysis (4)

SUGGESTED COURSE SEQUENCING FOR A MAJOR IN COMPUTER SCIENCE

This is a recommended sequence of course work. Certain courses may have prerequisites or are only offered during the Fall or Spring semesters. It is the student's responsibility to meet with the assigned advisor and check the 2 year course matrix on the Colorado Mesa website for course availability.

FRESHMAN YEAR

Fall Semester		Hours	Spring Semester		Hours
CSCI 111	CS1: Foundations of Computer Science	4	CSCI 112	CS2: Data Structures	4
MATH 151	Calculus I		MATH 152	Calculus II	
OR			OR		
MATH 135	Engineering Calculus I	4-5	MATH 136	Engineering Calculus II	4-5
ENGL 111	English Composition	3	ENGL 112	English Composition	3
KINE 100	Health and Wellness	1	Essential Learning	Social/Behavioral Science	3
Essential Learning	Social/Behavioral Science	3	KINA	Activity	1
		15-16			15-16

SOPHOMORE YEAR

Fall Semester		Hours	Spring Semester		Hours
CSCI 250	CS3: Intro to Algorithms	3	CSCI 241	Computer Architecture Language	
Essential Learning	History	3		& Assembly	4
Elective		3	STAT 200	Probability and Statistics	3
Essential Learning	Natural Science with Lab	4	Essential Learning	Natural Science	3
Essential Learning	Humanities	3	ESSL 200	Essential Speech	1
		16	CSCI 310	Advanced Programming:	1
			ESSL 290	Maverick Milestone	3
					15

JUNIOR YEAR

Fall Semester		Hours	Spring Semester		Hours
CSCI 310	Advanced Programming	3	Computer Science Choice		3
CSCI 330	Programming Languages	3	Computer Science Choice		3
Essential Learning	Fine Arts	3	Elective		3
Elective		6	MATH 369	Discrete Structures	3
		15	Upper Division Elective		2-3
					14-15

SENIOR YEAR

Fall Semester		Hours	Spring Semester		Hours
CSCI 484	Computer Networks	3	CSCI 470	Operating Systems Design	3
Computer Science Choice		3	CSCI 490	Software Engineering	3
Computer Science Choice		3	Computer Science Choice		3
Upper Division Elective		3	Elective		3-4
Elective		3-4			12-13
		15-16			

POLICIES:

1. Please see the catalog for a complete list of graduation requirements.
2. This program sheet must be submitted with your graduation planning sheet to your advisor during the **semester prior to the semester of graduation, no later than October 1 for spring graduates, no later than March 1 for fall graduates.** You must turn in your "Intent to Graduate" form to the Registrar's Office **by September 15 if you plan to graduate the following May, and by February 15 if you plan to graduate the following December**.
3. Your advisor will sign and forward the Program Sheet and Graduation Planning Sheet to the Department Head for signature. Finally, the Department Head will submit the signed forms to the Registrar's Office. (Students cannot handle the forms once the advisor signs.)
4. If your petition for graduation is denied, it will be your responsibility to reapply for graduation in a subsequent semester. Your "Intent to Graduate" does not automatically move to a later graduation date.
5. NOTE: During your senior year, you will be required to take a capstone exit assessment/project (e.g,, Major Field Achievement Test)