

COPPER MOUNTAIN COLLEGE
2021-2022
CALIFORNIA STATE UNIVERSITY (CSU)

M	IP	N	Completion and certification of CSU will permit a student to transfer from Copper Mountain College to a campus in CSU system without the need, after transfer, to take additional lower-division general education courses. All courses must be completed with a grade of "C" or better. CERTIFICATION: GE Certification means that CMC has verified that a student has completed lower-division requirements for the CSU system. Certification is important, without certification students will be held to general education requirements specific to the CSU campus to which they transfer. GE certification is not required for transfer. Some high unit majors, for example engineering, may recommend prioritizing major preparation classes over GE certification. See a Counselor for more information. LEGEND: <i>Courses without prerequisites are italicized</i> *Courses that appear in multiple areas below, can only be counted in one area. +Transfer credit may be limited by UC, CSU or both. Consult with a counselor. M = Met/Completed IP = In Progress N = Need to Complete		
AREA A ENGLISH LANGUAGE COMMUNICATION AND CRITICAL THINKING			1 course from A1, A2, A3 (9 semester units)		
			A1 ORAL COMMUNICATION (1 course, 3 semester units): <i>SP 001 Interpersonal Communication</i> (3) SP 004 Public Speaking (3) SP 015 Intercultural Communication (3)		
			A2 WRITTEN COMMUNICATION (1 course, 3 semester units): <i>ENG 003A College Composition</i> (3)		
			A3 CRITICAL THINKING (1 course 3 – semester units): ENG 001C Argumentation & Critical Thinking (3) (Effective Spring 2015) PHIL 010 <i>General Logic</i> (3) <i>SOC 004 Sociological Analysis and Critical Thinking</i> (3) SP 007 Decision-Making & Advocacy (3)		
AREA B SCIENTIFIC INQUIRY AND QUANTITATIVE REASONING			1 course from B1, B2, B3 and B4 (9 semester units)		
			B1 PHYSICAL A 001 <i>Descriptive Astronomy</i> (3) A 001L <i>Descriptive Astronomy Lab</i> (1) CH 001A <i>General Chemistry</i> (5) CH 001B <i>General Chemistry</i> (5) CH 003 <i>Introductory General Chemistry</i> (4)	CH 005 <i>Bio-Organic Chemistry</i> (4) CH 010A <i>Organic Chemistry</i> (5) (Effective Fall 2015) CH 010B <i>Organic Chemistry</i> (5) (Effective Fall 2015) G 001 <i>Physical Geology</i> (4) G 005 <i>Environmental Geology</i> (4)	G 010 <i>The Earth Sciences</i> (4) GEOG 001 <i>Physical Geography</i> (3) PH 001 <i>Introductory Physics</i> (4) PH 004A <i>Physics for Scientists & Engineers</i> (4) PH 004B <i>Physics for Scientists & Engineers</i> (4) PH 004C <i>Physics for Scientists & Engineers</i> (4)
			B2 LIFE <i>ANTH 001 Introduction to Physical Anthropology</i> (3) BI 004 <i>Elements of Biology</i> (3) BI 004L <i>Elements of Biology Lab</i> (1)	BI 005 <i>Molecular & Cellular Biology</i> (5) (Effective Fall 2013) BI 006 <i>Biology of Organisms</i> (5) (Effective Fall 2013) BI 015 <i>General Microbiology</i> (5)	BI 022 <i>Human Anatomy</i> (4) BI 023 <i>Human Physiology</i> (5) NR 001 <i>Conservation of Natural Resources</i> (3)
			B3 LABORATORY Met with the completion of a laboratory course from B1 or B2 . Courses with 4 or more units include a lab which meets this requirement.		
			B4 MATHEMATICS/QUANTITATIVE REASONING MATH 001A <i>Calculus</i> (4) MATH 001B <i>Calculus</i> (4) MATH 002A <i>Multivariate Calculus</i> (5) (Effective Fall 2014) MATH 002B <i>Linear Algebra</i> (4) (Effective Fall 2014)	MATH 002C <i>Ordinary Differential Equations</i> (4) (Effective Fall 2013) MATH 004 <i>Discrete Structures</i> (3) MATH 005 <i>Trigonometry</i> (4) MATH 010 <i>College Algebra</i> (4)	MATH 012 <i>Pre-Calculus</i> (5) MATH 014 <i>Statistical Methods</i> (4) MATH 016 <i>Mathematics for Elementary School Teachers</i> (3) (Effective Spring 2015) SOC 003 <i>Fundamentals of Statistics</i> (4)
AREA C ARTS & HUMANITIES			Minimum of 3 courses, with at least one course from C1, one course from C2, and the third course from C1 or C2 (9 semester units)		
			C1 ARTS ART 003A <i>Introduction to Two-Dimensional Design</i> (3) ART 010 <i>Introduction to Art</i> (3) ART 033 <i>History of Photography</i> (3) ART 050 <i>History of Western Art: Prehistory - Middle Ages</i> (3)	ART 051 <i>Western Art History: Renaissance to Contemporary</i> (3) ART 052 <i>History of Art: Modern to Contemporary Art with a Global Perspective</i> (3) ART 053 <i>Introduction to the Visual Arts of Non-western Cultures</i> (3)	MUS 005 <i>History of Rock 'N' Roll</i> (3) MUS 010 <i>Introduction to Music</i> (3) TA 001 <i>Introduction to Theatre</i> (3) TA 002 <i>Acting I</i> (3)

AREA C ARTS & HUMANITIES

Minimum of 3 courses, with at least one course from C1, one course from C2, and the third course from C1 or C2 (9 semester units)

M	IP	N	C2 HUMANITIES
			<p>ASL 001 <i>Elementary American Sign Language I</i> (5) ASL 002 <i>Elementary American Sign Language II</i> (5) ASL 003 <i>Intermediate American Sign Language I</i> (4) ASL 004 <i>Intermediate American Sign Language II</i> (4) ENG 001B <i>Composition & Literature</i> (3) ENG 010A <i>American Literature I</i> (3) ENG 010B <i>American Literature II</i> (3) ENG 011A <i>Survey of English Literature: Old English to 18th Century</i> (3) ENG 011B <i>Survey of English Literature: Romantic-Postmodernism</i> (3)</p>
			<p>ENG 012A <i>World Literature I: Beg-1650</i> (3) ENG 012B <i>World Literature II: The Modern World (1650-Present)</i> (3) HIST 003* <i>History of World Civilizations I</i> (3) HIST 004* <i>History of World Civilizations II</i> (3) HIST 017* <i>U.S. History through Reconstruction</i> (3) HIST 018* <i>U.S. History from Reconstruction to Present</i> (3) PHIL 006 <i>Introduction to Philosophy</i> (3) PHIL 008 <i>Philosophy from Ancient Times to the Renaissance</i> (3) PHIL 012* <i>Religions of the World</i> (3)</p>
			<p>PHIL 013 <i>Perspectives on Death & Dying</i> (3) PHIL 014 <i>Introduction to Ethics</i> (3) SP 002 <i>Oral Interpretation of Literature</i> (3) (Effective Fall 2020) SPAN 001 <i>Elementary Spanish</i> (5) SPAN 002* <i>Elementary Spanish</i> (5) SPAN 003* <i>Intermediate Spanish</i> (4) SPAN 004* <i>Intermediate Spanish</i> (4) TA 001 <i>Introduction to Theatre</i> (3)</p>

ONE ADDITIONAL COURSE FROM C1 OR C2

AREA D SOCIAL & BEHAVIORAL SCIENCES

Minimum of 2 courses (6 semester units)

M	IP	N	D0 – Sociology & Criminology	D4 – Gender Studies	D8 – Political Science, Government and Legal Institutions
			<p>CJ 002 <i>Criminal Law</i> (3) (Effective Spring 2011) CJ 010 <i>Juvenile Delinquency</i> (3) (Effective Spring 2011) CJ 032 <i>Introduction to Criminology</i> (3) (Effective Spring 2011) ^EGSJ 014 <i>Introduction to Race and Ethnicity</i> (3) SOC 001 <i>Introduction to Sociology</i> (3) SOC 002 <i>Social Problems</i> (3) ^SOC 014 <i>Introduction to Race and Ethnicity</i> (3)</p>	<p>*PSY 010 <i>Introduction to Marriage & Family</i> (3) *SOC 010 <i>Introduction to Marriage & Family</i> (3)</p>	<p>PSY 005 <i>Behavioral & Social Science Research Methods</i> (4) SP 015 <i>Intercultural Communication</i> (3)</p>
			<p>^EGSJ 014 <i>Introduction to Race and Ethnicity</i> (3) SOC 001 <i>Introduction to Sociology</i> (3) SOC 002 <i>Social Problems</i> (3) ^SOC 014 <i>Introduction to Race and Ethnicity</i> (3)</p>	<p>D5 – Geography GEOG 002 <i>Cultural Geography</i> (3) GEOG 007 <i>World Regional Geography</i> (3) (Effective Fall 2015)</p>	<p>CJ 001 <i>Introduction to Criminal Justice</i> (3) PS 001 <i>Introduction to Government</i> (3) PS 002 <i>Introduction to Comparative Governments</i> (3) PS 004 <i>Introduction to International Relations</i> (3)</p>
			<p>D1 – Anthropology & Archeology ANTH 002 <i>Cultural Anthropology</i> (3) ANTH 003 <i>Archaeology: An Introduction to Prehistory</i> (3)</p>	<p>D6 – History ^EGSJ 020 <i>Native American Studies</i> (3) HIST 003 <i>History of World Civilizations I</i> (3) HIST 004 <i>History of World Civilizations II</i> (3) HIST 017 <i>U.S. History Through Reconstruction</i> (3) HIST 018 <i>U.S. History from Reconstruction to Present</i> (3) HIST 019 <i>California History</i> (3) ^HIST 020 <i>Native American Studies</i> (3)</p>	<p>D9 – Psychology PSY 001 <i>General Psychology</i> (3) PSY 003 <i>Developmental Psychology</i> (3) PSY 005 <i>Behavioral & Social Science Research Methods</i> (4) PSY 012 <i>Human Sexuality</i> (3) (Effective Fall 2013) PSY 033 <i>Personal & Social Adjustment</i> (3)</p>
			<p>D2 – Economics ECON 001 <i>Principles of Macroeconomics</i> (3) ECON 002 <i>Principles of Microeconomics</i> (3)</p>	<p>D7 – Interdisciplinary Social or Behavioral Science CD 010 <i>Child Development</i> (4) (Effective Fall 2010) CD 012 <i>Child, Family, & Community</i> (3) (Effective Fall 2012)</p>	<p>^EGSJ 014 and SOC 014; EGSJ 020 and HIST 020 are comparable courses. Therefore, credit is awarded for only one course.</p>
			<p>D3 – Ethnic Studies SOC 014 <i>Introduction to Race and Ethnicity</i> (3)</p>		

AREA E LIFELONG LEARNING AND SELF-DEVELOPMENT

Minimum of 3 semester units.

			<p>CD 010 <i>Child Development</i> (4) (Effective Fall 2010) CD 044 <i>Child Health, Safety, & Nutrition</i> (3) (Effective Fall 2012) HS 001 <i>Personal and Community Health</i> (3) HS 013 <i>General Nutrition</i> (3)</p>	<p>KIN 001 <i>Introduction to Kinesiology</i> (3) (Effective Spring 2020) PHIL 013 <i>Perspectives on Death & Dying</i> (3) PSY 003 <i>Developmental Psychology</i> (3) ^PSY 010 <i>Introduction to Marriage & Family</i> (3) PSY 012 <i>Human Sexuality</i> (3)</p>	<p>PSY 033 <i>Personal and Social Adjustment</i> (3) ^SOC 010 <i>Introduction to Marriage & Family</i> (3) STDV 065 <i>College and Personal Success</i> (3) (Effective Fall 2013)</p>
					<p>^PSY 010 and SOC 010 are comparable courses. Therefore, credit is awarded for only one course.</p>

AREA F ETHNIC STUDIES

Minimum of 3 semester units.

^EGSJ 020 *Native American Studies* (3)

^EGSJ 020 and HIST 020 are comparable courses. Therefore, credit is awarded for only one course.

CSU GRADUATION REQUIREMENTS - U.S. History & American Institutions

1 course from GROUP 1 and 1 course from GROUP 2

GROUP 1: PS 1 **GROUP 2:** HIST 17, 18

Computer Science ADT

Semester: Fall Year:

COURSE	UNITS
CIS 70A Comp. Bus. Applications	3.00
CS 73 Intro to Comp. Sci.	3.00
ENG 3A College Composition	3.00
SP 1 Interpersonal Comm.	3.00
TOTAL UNITS	12.00

Semester: Spring Year:

COURSE	UNITS
CS 86 Visual Basic I	3.00
MATH 12 Pre-Calculus	5.00
ENG 1B Comp. & Literature	3.00
PSY 1 General Psychology	3.00
EGSJ 20 Native American Studies	3.00
TOTAL UNITS	17.00

Semester: Fall Year:

COURSE	UNITS
CS 87 Assembler Language	3.00
CS 89 C++ Programming I	3.00
MATH 1A Calculus	4.00
ANTH 1 Intro to Phys. Anthropology	3.00
PSY 3 Developmental Psych.	3.00
TOTAL UNITS	16.00

Semester: Spring Year:

COURSE	UNITS
CS 89A C++ Programming II	3.00
MATH 1B Calculus	4.00
PH 4A Engineering Physics	4.00
MATH 4 Discrete Structures	3.00
TOTAL UNITS	14.00

Semester: Fall Year:

COURSE	UNITS
PH 4B Engineering Physics	4.00
MATH 2A Multivariate Calculus	5.00
MUS 5 History of Rock 'N' Roll	3.00
SOC 4 Analysis/Crit. Thinking	3.00
TOTAL UNITS	15.00

Semester: Spring Year:

COURSE	UNITS
PHIL 13 Death & Dying	3.00
HIST 17 U.S. History	3.00
PS 1 Intro. to Government	3.00
TOTAL UNITS	9.00

Notes: Additional courses need to meet prerequisites: CIS 070A, CS 073, MATH 012 & MATH 002A (Co-Requisite). Highly suggested students take PS 001 to meet American Institutions requirement. If student is transferring to UC may need foreign language.

COMPUTER SCIENCE

There is strong demand for Computer Science majors in the work force. It is estimated that there will be 20 openings for every Computer Science graduate in the US next year. The main reason for the rapid growth is a large increase in the demand for computer software. These entry level job opportunities have excellent salary and benefits with no job experience required.

CMC offers up-to-date training with transfer degrees and certificates that will prepare you for a four-year school or the job market.

Program Student Learning Outcomes

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

1. Produce computer applications using structured programming techniques and object oriented design. (Institutional SLOs: Critical Thinking and Information Competency)
2. Critically apply, analyze, and evaluate fundamental concepts of software applications and hardware development. (Institutional SLOs: Critical Thinking and Information Competency)
3. Articulate the historical evolution of computer systems, including the legal, moral, and ethical issues associated with computers. (Institutional SLOs: Critical Thinking and Ethics)
4. Design and create solutions to a real world situation using the appropriate software. (Institutional SLOs: Information Competency)



ASSOCIATE IN SCIENCE IN COMPUTER SCIENCE for transfer

The Associate in Science in Computer Science for Transfer degree is designed for students pursuing degrees in Computer Science or Computer Engineering. Successful completion of the transfer degree in Computer Science guarantees the student acceptance to a local California State University to pursue a baccalaureate degree in Computer Science or a related field.

This degree includes the following completion requirements:

- (1) Completion of 60 semester units or 90 quarter units that are eligible for transfer to the California State University, including both of the following:

(A) The Intersegmental General Education Transfer Curriculum (IGETC) or the California State University General Education-Breadth Requirements.

(B) A minimum of 18 semester units or 27 quarter units in a major or area of emphasis, as determined by the community college district.

- (2) Obtainment of a minimum grade point average of 2.0.

Program Student Learning Outcomes

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

1. Understand the ethical, mathematical, and physical concepts that underlie computer science.
2. Understand the different levels of abstraction that comprise Computer Science.
3. Create efficient, working computer programs that use fundamental programming constructs to solve real-life problems.

ASSOCIATE IN SCIENCE IN COMPUTER SCIENCE with emphasis on employment preparation and transfer

Dept. /No.	Title	Units
Required Courses:		
CS 073	Introduction to Computer Science	3
CS 086	Visual Basic Programming I	3
CS 087	Assembler Language Programming	3
CS 089	C++ Programming I	3
CS 089A	C++ Programming II	3
MATH 002A	Multivariate Calculus	5
PH 004A	Physics for Scientists and Engineers	4
PH 004B	Physics for Scientists and Engineers	4
Required Courses		28
Minimum General Education (CSU GE or IGETC) Units		37-40
Transferable elective units as needed.		
MINIMUM TRANSFERABLE UNITS.....		60
Advisor:	J. Powell	

Dept. /No.	Title	Units
Required Courses:		
CS 087	Assembler Language Programming	3
CS 089	C++ Programming I	3
CS 089A	C++ Programming II	3
MATH 001A	Calculus	4
MATH 001B	Calculus	4
MATH 004	Discrete Structures	3
PH 004A	Physics for Scientists and Engineers	4
PH 004B	Physics for Scientists and Engineers	4
Required Courses		28
CSU or IGETC General Education Requirements		37-39
Transferable elective units as needed.		
MINIMUM TRANSFERABLE UNITS.....		60
Advisor:	J. Powell	