Articulation Agreement by Major

Effective during the 2022-2023 Academic Year

To: University of California, Merced	From: Bakersfield College
2022-2023 General Catalog, Semester	2022-2023 General Catalog, Semester

Computer Science and Engineering, B.S.

ADMISSIONS MAJOR SELECTION CRITERIA

Thank you for your interest in UC Merced!

For admission to the **Computer Science and Engineering, B.S.** major, students must earn an overall transferrable GPA of 2.4 or better, and complete classes articulated with the following UC Merced courses by the end of spring term prior to fall enrollment or by the end of fall term prior to spring enrollment. All major preparation courses requires a "C" or better.

REQUIRED major preparation courses:

- *CSE 020, a grade of B or better must be earned.
- * CSE 021, a grade of B or better must be earned.
- MATH 021, MATH 022, MATH 023, MATH 024
- PHYS 008 & 008L, PHYS 009 & 009L

* UCM Computer Science and Engineering (CSE) department often will accept 1 course from the California Community College to count for both CSE 020 and CSE 021. Please see the articulation below to determine if that scenario applies to your college.
* Effective Fall 2021, CSE 020 and CSE 021 are no longer offered at UC Merced. However, they will remain as courses required for admissions.

Starting for Fall 2024 Applicants:

- ++ CSE 030 (Data Structures)

++ Starting for Fall 2024 applicants, Computer Science and Engineering is proposing CSE 030, with a grade of C or better to be completed for selection. Applicants are strongly encouraged to complete the course by the end of Spring 2024 semester/quarter to be prepared when this proposal is approved.

Additional Major Preparation Recommended Prior to Transfer:

- CSE 015, *CSE 022, CSE 024, *CSE 030, CSE 031
- ENGR 065
- Complete one of the following: BIO 003 or 005 or 043 or 047 or ESS 001 or 005
- MATH 032

* CSE 022 (Introduction to Programming) and CSE 030 (Data Structures) are highly recommended to be completed before transfer. Doing so can help speed up time towards graduation.
* Dual Counting between CSE 020 &/or CSE 021 and CSE 022 is permissible granted that the same course articulation exist for both sending courses.
* Dual Counting between CSE 020 &/or CSE 021 and CSE 024 is permissible granted that the same course articulation exist for both sending courses.
* Dual Counting between CSE 024 and CSE 030 is permissible granted that the same course articulation exist for both sending courses.

AP Exam Score & Course Exemptions

- An AP Computer Science: Comp Science A score of 5 exempts CSE 022
- An AP Mathematics: Calculus AB score of 4 or 5 exempts Math 021
- An AP Mathematics: Calculus BC score of 3 exempts MATH 021
- An AP Mathematics: Calculus BC score of 4 or 5 exempts Math 021 and Math 022
- An AP Mathematics: Calculus BC Subscore AB score 3 or higher exempts Math 021
- An AP Environmental Sciences: score of 4 or 5 exempts ESS 001
- An AP Physics: Physics C: Mechanics: score of 5 exempts PHYS 008 and PHYS 008L

UC Merced Advance Placement (AP) and International Baccalaureate (IB) credit policies are detailed in the link below:
Advance Placement (AP) and International Baccalaureate (IB) Examinations

IMPORTANT TRANSFER INFORMATION

In addition to the Major Selection Criteria, all Upper-Division Transfer applicants must meet minimum University of California admissions requirements. Visit https://admissions.ucmerced.edu/transfer/requirements for more specific UC Merced admissions information.

Prior to Transferring to UC Merced, please be advised of the following for Junior Transfers:

1) WRI 001 and WRI 010 are admissions requirements: In most situations, WRI 001 is fulfilled by IGETC 1A English Composition and WRI 010 is fulfilled by IGETC 1B Critical Thinking/English Composition. However best practice is to complete the articulated course for WRI 001 and WRI 010. Please scroll towards the bottom of the agreement to find the articulation for each course.

2) Transfer Admissions Guarantee (TAG): UC Merced is one of the six UC's that offers Transfer Admissions Guarantee. Please visit the TAG website

for more information: https://admissions.ucmerced.edu/transfer/tag

3) General Education (GE Requirements): While general education is not required for admission, it can help speed up your time to graduation once you transfer to UC Merced. We highly recommend reviewing the **Transfer Students: Satisfying General Education** page in the catalog for a more extensive explanation of the requirements.

Please note the School of Engineering strongly discourages IGETC, but accepts it; students are encouraged to focus primarily on lower division major preparation and fulfilling UCM minimum admissions requirements. If you elect to complete IGETC, the courses may double count with the major courses listed below. Please visit your Community College Counselor to learn more.

4. This agreement displays all lower-division (or Major Preparation) courses required in the major. UC Merced courses on the left, approved (articulated) transfer courses to the right.

5. Changes to this Agreements: Major requirements are subject to change from one academic year to the next. Newly-articulated courses are added on a rolling basis, and articulated courses can be revised. Visit ASSIST every semester for the latest information and consult with an Academic Counselor at your institution on a regular basis.

For more questions about admissions, please email: transfer@ucmerced.edu.

ABOUT THIS MAJOR

The undergraduate major in Computer Science and Engineering is designed to provide students with both breadth and depth in the exciting and rapidly expanding fields of:

- Computer science—the study of computation, including algorithms and data structures, and
- Computer engineering—including hardware, software and network architecture.

A degree in Computer Science and Engineering from UC Merced prepares students to assume leadership roles in designing, building and implementing a vast array of powerful new technologies that will continue to advance humankind. Our curriculum in Computer Science and Engineering at UC Merced builds a solid foundation for innovation in areas ranging from robotics and automation, computer networks, security, graphics and visualization, and computer vision to informatics, machine learning and artificial intelligence. Careers in computer science and engineering are among the most satisfying and rewarding of any engineering discipline.

Visit the 22-23 catalog page for the Lower Division and Upper Division requirements for the major.

MAJOR PREPARATION COURSES REQUIRED FOR TRANSFER

****REFER TO TOP OF AGREEMENT****
Required for admission

CSE 020 - Introduction to Computing I (2.00) • *Minimum grade required: B or better*	←	No Course Articulated
--- And ---		
CSE 021 - Introduction to Computing II (2.00) • *Minimum grade required: B or better*	←	No Course Articulated
--- Or ---		
CSE 020 - Introduction to Computing I (2.00) **--- And ---** **CSE 021** - Introduction to Computing II (2.00) • *Minimum grade required: B or better*	←	**COMP B10** - Introduction to Programming Methodologies using Python (3.00) **--- Or ---** **COMP B11** - Programming Concepts and Methodology I (3.00) **--- Or ---** **ENGR B19C** - Introduction to Programming Concepts and Methodologies for Engineers (4.00)
--- And ---		
MATH 021 - Calculus I for Physical Sciences & Engineering (4.00)	←	**MATH B6A** - Analytic Geometry/Calculus I (4.00)
MATH 022 - Calculus II for Physical Sciences & Engineering (4.00)	←	**MATH B6B** - Analytic Geometry/Calculus II (4.00)
MATH 023 - Vector Calculus (4.00)	←	**MATH B6C** - Calculus III (4.00)
MATH 024 - Linear Algebra and Differential Equations (4.00)	←	**MATH B6E** - Elementary Linear Algebra (3.00) **--- And ---** **MATH B6D** - Ordinary Differential Equations (3.00)
--- And ---		

PHYS 008 - Introductory Physics I for Physical Sciences (3.00) **--- And ---** **PHYS 008L** - Introductory Physics I for Physical Sciences Lab (1.00)	←	**PHYS B4A** - Mechanics and Wave Motion (4.00)
PHYS 009 - Introductory Physics II for Physical Sciences (3.00) **--- And ---** **PHYS 009L** - Introductory Physics II for Physical Sciences Lab (1.00)	←	**PHYS B4B** - Heat, Electricity and Magnetism (4.00)

ADDITIONAL MAJOR PREPARATION COURSES

Minimum grade required: C or better

CSE 015 - Discrete Mathematics (4.00) • *Recommended to be completed prior to transfer*	←	**COMP B14** - Discrete Structures (3.00)
CSE 022 - Introduction to Programming (4.00)	←	**COMP B10** - Introduction to Programming Methodologies using Python (3.00) **--- Or ---** **COMP B11** - Programming Concepts and Methodology I (3.00) **--- Or ---** **ENGR B19C** - Introduction to Programming Concepts and Methodologies for Engineers (4.00)
CSE 024 - Advanced Programming (4.00)	←	No Course Articulated
CSE 030 - Data Structures (4.00) • *Recommended to be completed prior to transfer* • ***REFER TO TOP OF AGREEMENT***	←	**COMP B12** - Programming Concepts and Methodology II (3.00)
CSE 031 - Computer Organization and Assembly Language (4.00) • *Recommended to be completed prior to transfer*	←	**COMP B13** - Computer Architecture and Organization (3.00)
ENGR 065 - Circuit Theory (4.00)	←	**ENGR B17** - Introduction to Electric Circuits (3.00) **--- And ---** **ENGR B17L** - Electric Circuit Laboratory (1.00)

BIOLOGICAL OR ENVIRONMENTAL SYSTEMS SCIENCE REQUIREMENT

Select 1 Course from the following

Minimum grade required: C or better

Recommended to be completed prior to transfer

BIO 003 - To Know Ourselves: Molecular Basis of Health and Disease (4.00)	←	**BIOL B32** - Human Anatomy and Physiology I (4.00) **--- And ---** **BIOL B33** - Human Anatomy and Physiology II (4.00)
BIO 005 - Concepts & Issues in Biology Today (4.00)	←	**BIOL B11** - Concepts of Biology (4.00) • *Course(s) can only fulfill one requirement within the major*
BIO 043 - Biodiversity and Conservation (4.00) Same-As: ESS 043	←	No Course Articulated
BIO 047 - Astrobiology (4.00) Same-As: ESS 047	←	No Course Articulated
ESS 001 - Introduction to Earth Systems Science (4.00)	←	**ERSC B10** - Introduction to Earth Science (3.00) **--- And ---** **ERSC B10L** - Earth Science Laboratory (1.00)
ESS 005 - Introduction to Biological Earth Systems (4.00)	←	**BIOL B11** - Concepts of Biology (4.00) • *Course(s) can only fulfill one requirement within the major*

LOWER DIVISION MAJOR REQUIREMENTS

Minimum grade required: C or better

MATH 032 - Probability and Statistics (4.00) • *Course recommended to be taken at university*	←	No Course Articulated

ACADEMIC WRITING - CHOOSE ONE COURSE FROM:

****REFER TO TOP OF AGREEMENT****
Minimum grade required: C or better

WRI 001 - Academic Writing (4.00)	←	**ENGL B1A** - Expository Composition (3.00) **--- Or ---** **ENGL B1AL** - Expository Composition with Supplemental Instruction (3.50) • *UC credit limitation applies; refer to UC-transferability list* **--- Or ---** **EMLS B1A** - Expository Composition (4.00)

COLLEGE READING AND COMPOSITION - CHOOSE ONE COURSE FROM:

****REFER TO TOP OF AGREEMENT****
Minimum grade required: C or better

WRI 010 - College Reading and Composition (4.00)	←	**COMM B15** - Argumentation and Rhetoric (3.00) **--- Or ---** **ENGL B2** - Advanced Composition and Critical Thinking (4.00) **--- Or ---** **ENGL B3** - Argumentative Writing and Critical Thinking Through Literature (4.00) **--- Or ---** **HIST B9** - Historical Methods: Critical Thinking & Writing in History (3.00) **--- Or ---** **PHIL B9** - Critical Thinking and Advanced Composition (3.00)

END OF AGREEMENT