Articulation Agreement by Major

Effective during the 2022-2023 Academic Year

To: University of California, Merced 2022-2023 General Catalog, Semester	From: De Anza College 2022-2023 General Catalog, Quarter

Civil Engineering, B.S.

ADMISSIONS MAJOR SELECTION CRITERIA

Thank you for your interest in UC Merced!

For admission to the **Civil 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:

- CHEM 002
- MATH 021, MATH 022, MATH 023, MATH 024
- PHYS 008 & 008L, PHYS 009 & PHYS 009L

Additional Major Preparation Recommended Prior to Transfer:

- * ENGR 045, * ENGR 057, ENGR 151(Lower Division Credit only)
- CE 001, CE 010, CE 020
- MATH 032
- Choose one course from the following: BIO 003 OR BIO 005 OR BIO 043 OR BIO 060 OR ESS 001 OR ESS 005 OR ESS 010 OR ** ESS 020

* ENGR 045 and ENGR 057 are prerequisites for Upper Division Major courses. Completing them in advance can speed up time for graduation.
** ESS 020 (Fundamentals of Geology) is one of the prerequisite courses for ENVE 176 (Water and Wastewater Treatment), which is an Upper Division course option for the major.

AP Exam Score & Course Exemptions

- An AP Chemistry score of 5 exempts CHEM 002 and CHEM 010
- 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

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 Civil Engineering prepares students for careers in both industry and government agencies concerned with managing air quality, water quality and supply, infrastructure, energy, public health and the welfare of the total environment. The program is also a good foundation for further study in earth science, engineering, business, management, law and public health. The curriculum provides students with a quantitative understanding of the physical, chemical and biological principles that control the quality of our natural and engineered environment and focuses on the design, development, implementation and assessment of sustainable engineering solutions to society's waste and resource management challenges. In the coming decades, civil engineers will increasingly be called upon to address broader issues of environmental sustainability by minimizing the release of residuals through altered production processes and choice of materials; by capturing the resource value of wastes through recovery, recycling and reuse; and by managing natural resources to meet competing societal objectives.

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

The Civil Engineering program at UC Merced is accredited by the Engineering Accreditation Commission of ABET, abet.org.

MAJOR PREPARATION COURSES REQUIRED FOR TRANSFER

Minimum grade required: C or better
Required for admission

CHEM 002 - General Chemistry I (4.00) ←

CHEM 1A - General Chemistry (5.00)
--- And ---
CHEM 1B - General Chemistry (5.00)

--- Or ---

CHEM 1A - General Chemistry (5.00)
--- And ---
CHEM 1BH - General Chemistry - HONORS (5.00)

--- Or ---

CHEM 1AH - General Chemistry - HONORS (5.00)
--- And ---
CHEM 1BH - General Chemistry - HONORS (5.00)

--- Or ---

CHEM 1AH - General Chemistry - HONORS (5.00)
--- And ---
CHEM 1B - General Chemistry (5.00)

--- And ---

MATH 021 - Calculus I for Physical Sciences & Engineering (4.00) ←

MATH 1A - Calculus (5.00)
--- And ---
MATH 1B - Calculus (5.00)

--- Or ---

MATH 1AH - Calculus - HONORS (5.00)
--- And ---
MATH 1BH - Calculus - HONORS (5.00)

MATH 022 - Calculus II for Physical Sciences & Engineering (4.00)	←	**MATH 1B** - Calculus (5.00) **--- And ---** **MATH 1C** - Calculus (5.00) **--- Or ---** **MATH 1BH** - Calculus - HONORS (5.00) **--- And ---** **MATH 1CH** - Calculus - HONORS (5.00)
MATH 023 - Vector Calculus (4.00)	←	**MATH 1C** - Calculus (5.00) **--- And ---** **MATH 1D** - Calculus (5.00) **--- Or ---** **MATH 1CH** - Calculus - HONORS (5.00) **--- And ---** **MATH 1DH** - Calculus - HONORS (5.00)
MATH 024 - Linear Algebra and Differential Equations (4.00)	←	**MATH 2A** - Differential Equations (5.00) **--- And ---** **MATH 2B** - Linear Algebra (5.00)

--- And ---

PHYS 008 - Introductory Physics I for Physical Sciences (3.00) **--- And ---** **PHYS 008L** - Introductory Physics I for Physical Sciences Lab (1.00)	←	**PHYS 4A** - Physics for Scientists and Engineers: Mechanics (6.00)
PHYS 009 - Introductory Physics II for Physical Sciences (3.00) **--- And ---** **PHYS 009L** - Introductory Physics II for Physical Sciences Lab (1.00)	←	**PHYS 4B** - Physics for Scientists and Engineers: Electricity and Magnetism (6.00) **--- And ---** **PHYS 4C** - Physics for Scientists and Engineers: Fluids, Waves, Optics and Thermodynamics (6.00)

ADDITIONAL MAJOR PREPARATION COURSES

Minimum grade required: C or better

ENGR 045 - Introduction to Materials (4.00) • *Recommended to be completed prior to transfer*	←	No Course Articulated
ENGR 057 - Statics and Dynamics (4.00) • *Recommended to be completed prior to transfer*	←	No Course Articulated
ENGR 151 - Strength of Materials (4.00)	←	No Course Articulated

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

ESS 020 - Fundamentals of Geology (4.00) • ***REFER TO TOP OF AGREEMENT*** • *Recommended*	←	**GEOL 10** - Introductory Geology (5.00)
BIO 003 - To Know Ourselves: Molecular Basis of Health and Disease (4.00)	←	No Course Articulated

BIO 005 - Concepts & Issues in Biology Today (4.00)	←	**BIOL 10** - Introductory Biology (5.00) **--- Or ---** **BIOL 10H** - Introductory Biology - HONORS (5.00)
BIO 043 - Biodiversity and Conservation (4.00) Same-As: ESS 043	←	No Course Articulated
BIO 060 - Nutrition (4.00)	←	**NUTR 10** - Contemporary Nutrition (4.00)
ESS 001 - Introduction to Earth Systems Science (4.00)	←	No Course Articulated
ESS 005 - Introduction to Biological Earth Systems (4.00)	←	No Course Articulated
ESS 010 - Earth Resources and Society (4.00)	←	No Course Articulated

LOWER DIVISION MAJOR REQUIREMENTS

Minimum grade required: C or better

MATH 032 - Probability and Statistics (4.00)	←	**MATH 23** - Engineering Statistics (5.00)
CE 001 - Civil Engineering Seminar (1.00)	←	No Course Articulated
CE 010 - Surveying and Geomatics Fundamentals, Equipment, Methods, and Applications (4.00)	←	No Course Articulated
CE 020 - Introduction to Civil and Environmental Engineering (4.00)	←	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)	←	**ESL 5** - Advanced Composition and Reading (5.00) **--- Or ---** **EWRT 1A** - Composition and Reading (5.00) **--- Or ---** **EWRT 1AH** - Composition and Reading - HONORS (5.00) **--- Or ---** **EWRT 1AS** - Intensive Composition and Reading Stretch: First Quarter (5.00) • *UC credit limitation applies; refer to UC-transferability list* **--- And ---** **EWRT 1AT** - Intensive Composition and Reading Stretch: Second Quarter (5.00) • *UC credit limitation applies; refer to UC-transferability list*

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 9** - Argumentation: Analysis of Oral and Written Communication (5.00) **--- Or ---** **COMM 9H** - Argumentation: Analysis of Oral and Written Communication - HONORS (5.00) **--- Or ---** **EWRT 1B** - Reading, Writing and Research (5.00) **--- Or ---** **EWRT 1C** - Literature and Composition (5.00) **--- Or ---** **EWRT 2** - Critical Reading, Writing and Thinking (5.00) **--- Or ---** **EWRT 2H** - Critical Reading, Writing and Thinking - HONORS (5.00) **--- Or ---** **PHIL 3** - Critical Thinking and Writing (5.00)

END OF AGREEMENT