

# 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

## Mechanical Engineering, B.S.

### ADMISSIONS MAJOR SELECTION CRITERIA

#### Thank you for your interest in UC Merced!

For admission to the **Mechanical 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 spring prior to fall enrollment or by fall 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 & PHYS 008L, PHYS 009 & PHYS 009L

#### **Additional Major Preparation** Recommended Prior to Transfer:

- ENGR 045, ENGR 057, ENGR 065, ENGR 151(Lower Division Credit only)
- ME 001, ME 021, ME 137(Lower Division Credit only)
- MATH 032
- BIO 003 OR BIO 005 OR BIO 043 OR BIO 047 OR BIO 060 OR BIO 065 OR ESS 001 OR ESS 005

#### **AP Exam Score & Course Exemptions**

- An AP Biology score of 4 or 5 exempts BIO 001 and BIO 001L
- 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 Physics: Physics C: Mechanics score of 5 exempts PHYS 008 and PHYS 008L
- 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](mailto:transfer@ucmerced.edu).

## ABOUT THIS MAJOR

The [undergraduate major in Mechanical Engineering](#) provides students with a solid foundation and the necessary skills to assume leadership roles in industry and government agencies. The major also offers a number of opportunities for students intending to continue their education in graduate school. Mechanical Engineering impacts society by developing innovative technologies through design and synthesis of mechanical components and systems. Mechanical engineers are recruited in a variety of industries, including automotive, aerospace, power generation, environmental, electronics, bioengineering, agriculture, food processing, and consulting firms, among many others. Because of the variety of fields that are relevant to this profession, the undergraduate program covers a broad range of subjects, including dynamics, materials, thermal/fluids, vibrations, controls, computer-aided engineering, design and manufacturing. The innovative curriculum at UC Merced provides a rich educational experience that exposes students to engineering fundamentals, laboratory skills and advanced computational tools to solve realistic engineering problems.

Visit the [22-23 catalog page](#) to learn more about the Lower Division and Upper Division requirements for the major.

The Mechanical Engineering program at UC Merced is accredited by the Engineering Accreditation Commission of ABET, <http://www.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

**ME 001** - Introduction to Mechanical Engineering (1.00)



No Course Articulated

**ME 021** - Engineering Computing (4.00)



No Course Articulated

- *Recommended to be completed prior to transfer*

**ME 137** - Computer Aided Engineering (3.00)



No Course Articulated

--- And ---

**ENGR 045** - Introduction to Materials (4.00)



No Course Articulated

- *Recommended to be completed prior to transfer*

**ENGR 057** - Statics and Dynamics (4.00)



No Course Articulated

- *Recommended to be completed prior to transfer*

**ENGR 065** - Circuit Theory (4.00)



No Course Articulated

- *Recommended to be completed prior to transfer*

**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

**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 047** - Astrobiology (4.00)  
Same-As: ESS 047

← No Course Articulated

**BIO 060** - Nutrition (4.00)

← **NUTR 10** - Contemporary Nutrition (4.00)

**BIO 065** - Natural History of Dinosaurs (4.00)  
Same-As: ESS 065

← No Course Articulated

**ESS 001** - Introduction to Earth Systems Science (4.00)

← No Course Articulated

**ESS 005** - Introduction to Biological Earth Systems (4.00)

← No Course Articulated

### ADDITIONAL LOWER DIVISION COURSE

Minimum grade required: C or better

**MATH 032** - Probability and Statistics (4.00)

← **MATH 23** - Engineering Statistics (5.00)

### 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**