

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

Chemistry, Materials Chemistry Emphasis, B.S.

ADMISSIONS MAJOR SELECTION CRITERIA

Thank you for your interest in UC Merced!

For admission to the **Chemistry, Materials Chemistry** Emphasis, B.S. major, students must earn an overall transferrable GPA of 2.8 or better, and must 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 For Transfer:

- CHEM 002
- CHEM 010
- MATH 021
- MATH 022
- PHYS 008 & PHYS 008L
- PHYS 009 & PHYS 009L

Additional Major Preparation Courses: Recommended Prior to Transfer:

- CHEM 008 & CHEM 008L AND CHEM 100 OR CHEM 100 & CHEM 100L
- Math 023, 024, 032
- ENGR 045
- BIO 001 and BIO 001L
- Complete either CSE 005 or CSE 019 or MATH 015

Since some of the Additional Major Preparation Courses are prerequisites for upper division courses, completing them, particularly courses in Organic Chemistry and Linear Algebra/Differential Equation, before enrollment at UC Merced can speed up time to graduation.

AP Exam Score & Course Exemptions

- AP Biology score of 4 or 5 exempts BIO 001 and BIO 001L
- AP Chemistry score of 5 exempts CHEM 002 and CHEM 010
- AP Computer Science: Comp Science A score of 3 or 4 exempts CSE 005
- AP Mathematics: Calculus AB score of 4 or 5 exempts MATH 021
- AP Mathematics: Calculus BC score of 3 exempts MATH 021
- AP Mathematics: Calculus BC score of 4 or 5 exempts MATH 021 and MATH 022
- AP Mathematics: Calculus BC Subscore AB score 3 or higher exempts MATH 021
- 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 Natural Sciences](#) does not recommend 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 UC Merced [Chemistry](#) undergraduate program is based on a core-plus-emphasis structure that enables students to specialize in particular subfields while each completing a set of core courses designed to meet the requirements for American Chemical Society accreditation. We offer a basic chemistry program and two emphasis tracks: biological chemistry and materials chemistry. These tracks allow our students to pursue interdisciplinary areas within a degree program that is still focused on chemistry.

For more information on the **Materials Chemistry** emphasis, please visit the [22-23 catalog](#) and the [Four-Year Course Plan](#) (We encourage to visit your Community College Counselor to create an individualize educational plan for transfer)

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)

CHEM 010 - General Chemistry II (4.00)



CHEM 1B - General Chemistry (5.00)

--- And ---

CHEM 1C - General Chemistry and Qualitative Analysis (5.00)

--- Or ---

CHEM 1BH - General Chemistry - HONORS (5.00)

--- And ---

CHEM 1CH - General Chemistry and Qualitative Analysis - HONORS (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)

--- 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

BIO 001 - Contemporary Biology (4.00)

--- And ---

BIO 001L - Contemporary Biology Lab (1.00)

- *Recommended to be completed prior to transfer*



BIOL 6AH - Form and Function in the Biological World - HONORS (6.00)

--- And ---

BIOL 6CH - Ecology and Evolution - HONORS (6.00)

--- Or ---

BIOL 6A - Form and Function in the Biological World (6.00)

--- And ---

BIOL 6C - Ecology and Evolution (6.00)

--- Or ---

BIOL 6AH - Form and Function in the Biological World - HONORS (6.00)

--- And ---

BIOL 6C - Ecology and Evolution (6.00)

--- Or ---

BIOL 6A - Form and Function in the Biological World (6.00)

--- And ---

BIOL 6CH - Ecology and Evolution - HONORS (6.00)

--- And ---

| | | |
|--|---|---|
| MATH 023 - Vector Calculus (4.00) <ul style="list-style-type: none"> <i>Recommended to be completed prior to transfer</i> | ← | MATH 1C - Calculus (5.00) <div>--- And ---</div> MATH 1D - Calculus (5.00) |
| | | <div>--- Or ---</div> MATH 1CH - Calculus - HONORS (5.00) <div>--- And ---</div> MATH 1DH - Calculus - HONORS (5.00) |
| MATH 024 - Linear Algebra and Differential Equations (4.00) <ul style="list-style-type: none"> <i>Recommended to be completed prior to transfer</i> | ← | MATH 2A - Differential Equations (5.00) <div>--- And ---</div> MATH 2B - Linear Algebra (5.00) |
| MATH 032 - Probability and Statistics (4.00) | ← | MATH 23 - Engineering Statistics (5.00) |

ORGANIC CHEMISTRY COURSES

Minimum grade required: C or better
Recommended to be completed prior to transfer

| | | |
|---|---|--|
| CHEM 008 - Principles of Organic Chemistry (3.00) | ← | No Course Articulated |
| CHEM 008L - Principles of Organic Chemistry Lab (1.00) | ← | No Course Articulated |
| --- Or --- | | |
| CHEM 008 - Principles of Organic Chemistry (3.00) <div>--- And ---</div> CHEM 008L - Principles of Organic Chemistry Lab (1.00) | ← | CHEM 12A - Organic Chemistry (5.00) <div>--- And ---</div> CHEM 12B - Organic Chemistry (5.00) |
| --- And --- | | |
| CHEM 100 - Organic Synthesis and Mechanism (4.00) | ← | No Course Articulated |
| --- Or --- | | |
| CHEM 100 - Organic Synthesis and Mechanism (4.00) <div>--- And ---</div> CHEM 100L - Organic Chemistry Laboratory (1.00) <ul style="list-style-type: none"> <i>Acceptable substitute</i> | ← | CHEM 12B - Organic Chemistry (5.00) <ul style="list-style-type: none"> <i>Lower division credit only</i> <div>--- And ---</div> CHEM 12C - Organic Chemistry (5.00) <ul style="list-style-type: none"> <i>Lower division credit only</i> |

MATERIALS CHEMISTRY EMPHASIS REQUIREMENT

Minimum grade required: C or better

| | | |
|--|---|-----------------------|
| ENGR 045 - Introduction to Materials (4.00) | ← | No Course Articulated |
|--|---|-----------------------|

COMPUTER SCIENCE COURSE

Select 1 Course from the following

Minimum grade required: C or better

| | | |
|---|---|--|
| CSE 005 - Introduction to Computer Applications (4.00) | ← | CIS 3 - Business Information Systems (4.50) |
|---|---|--|

CSE 019 - Introduction to Computing (4.00)



CIS 26A - C as a Second Programming Language (4.50)

--- Or ---

CIS 26B - Advanced C Programming (4.50)

- *Effective next fall, this course will no longer articulate*

--- Or ---

CIS 22A - Beginning Programming Methodologies in C++ (4.50)

--- And ---

CIS 22B - Intermediate Programming Methodologies in C++ (4.50)

--- Or ---

CIS 22A - Beginning Programming Methodologies in C++ (4.50)

--- And ---

CIS 22BH - Intermediate Programming Methodologies in C++ - HONORS (4.50)

--- Or ---

CIS 27 - Programming in C++ for C/Java Programmers (4.50)

--- Or ---

CIS 36A - Introduction to Computer Programming Using Java (4.50)

--- And ---

CIS 36B - Intermediate Problem Solving in Java (4.50)

--- Or ---

CIS 41A - Python Programming (4.50)

MATH 015 - Introduction to Scientific Data Analysis (2.00)



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