

# Articulation Agreement by Major

Effective during the 2018-2019 Academic Year

To: University of California, Merced  
General Catalog, Semester

From: Foothill College  
General Catalog, Quarter

## APPLIED MATHEMATICAL SCIENCES, B.S.

### SCHOOL OF NATURAL SCIENCES

\*\*Applied Mathematical Sciences, B.S. offers emphases in: Computational Biology, Computer Science, Computational & Data Sciences, Economics, Engineering, Environmental, and Physics. Transfer applicants must choose an emphasis in the major.\*\*

### REQUIREMENTS FOR ADMISSION

For admission to the Applied Mathematical Sciences major, students must earn a minimum overall GPA of 2.8 or better, and must complete classes articulated with the following UC Merced courses prior to admission:

- MATH 21, MATH 22, PHYS 8 and PHYS 9

Transfer students seeking fall admission should have the following completed by the spring term preceding fall enrollment at UC Merced:

1. All minimum admissions requirements including appropriate courses in math and the equivalent of WRI 1 and WRI 10 (see articulation by department on ASSIST.org).
2. At least one social science, Humanities or Arts course listed in the general education information for the School of Natural Sciences. Two courses (one from each area) is strongly recommended.
3. All major preparation requirements as stated above.

### ADVANCED PLACEMENT INFORMATION

Advanced Placement (AP) and International Baccalaureate (IB) Examination note:

AP and IB examination credit policies are detailed in the 2017-18 UC Merced general catalog viewable online at: [http://catalog.ucmerced.edu/content.php?catoid=7&navoid=647#AP\\_IB](http://catalog.ucmerced.edu/content.php?catoid=7&navoid=647#AP_IB)

**\*ALERT\*** It is strongly recommended that you obtain a full transcript of your academic records from each of the colleges and universities you have attended before you start your UC application. **Applicants must report ALL grades in ALL courses--transferable and not transferable--from all institutions attended.** Applicants are solely responsible for the integrity of their self-reported academic record in the UC application.

Applicants are encouraged to clear any No Pass, D, or F letter grade received in UC Transfer course. Applicants are most competitive in the Admissions Process with fewer withdrawals and/or repeated course work in major preparation.

All course work must be completed with a 'C' or better.

Following these guidelines will assist you to be more competitive for admission to your UC Merced major.

If you have any questions about UC Merced admissions policy, please email: [admissions@ucmerced.edu](mailto:admissions@ucmerced.edu)

Completion of IGETC is not recommended but is accepted for this major.

All course work must be completed with a letter grade of "C" or better.

For the most up-to-date information about transferring to UC Merced, please visit [admissions.ucmerced.edu/transfer\\_requirements](https://admissions.ucmerced.edu/transfer_requirements).

Information about applying for a Transfer Admission Guarantee is available at [admissions.ucmerced.edu/tag](https://admissions.ucmerced.edu/tag).

## ADDITIONAL LOWER DIVISION REQUIREMENTS

\*\*For the Applied Mathematical Sciences and Computational Biology emphasis tracks, students must take BIO 1 **and** BIO 1L and earn a grade of B or better.\*\*

\*\*For the Applied Mathematical Sciences and Environmental emphasis tracks, students will take ESS 1 to fulfill emphasis track requirements, and must take a different course to fulfill the lower division course requirement\*\*

### COMPLETE ONE OF THE FOLLOWING

**BIO 1** - Contemporary Biology (4.00)

**And**

**BIO 1L** - Contemporary Biology Lab (1.00)

- \*\*REFER TO TOP OF AGREEMENT\*\*
- Depending on the area of concentration

**BIOL 1A** - Principles of Cell Biology (6.00)

**And**

**BIOL 1B** - Form and Function in Plants and Animals (6.00)

**And**

**BIOL 1C** - Evolution, Systematics and Ecology (6.00)

**ESS 1** - Introduction to Earth Systems Science (4.00)



No Course Articulated

- \*\*REFER TO TOP OF AGREEMENT\*\*
- Depending on the area of concentration

**ESS 5** - Introduction to Biological Earth Systems (4.00)



No Course Articulated

### MATHEMATICS REQUIREMENT (COMPLETE THE FOLLOWING FIVE COURSES):

**MATH 21** - Calculus I for Physical Sciences & Engineering (4.00)



**MATH 1A** - Calculus (5.00)

**Or**

**MATH 1AH** - Honors Calculus I (5.00)

**MATH 22** - Calculus II for Physical Sciences & Engineering (4.00)



**MATH 1A** - Calculus (5.00)

**And**

**MATH 1B** - Calculus (5.00)

**MATH 23** - Vector Calculus (4.00)



**MATH 1C** - Calculus (5.00)

**MATH 24** - Introduction to Linear Algebra and Differential Equations (4.00)



**MATH 2A** - Differential Equations (5.00)

**And**

**MATH 2B** - Linear Algebra (5.00)

**MATH 32** - Probability and Statistics (4.00)



No Course Articulated

- Course recommended to be taken at university

### COMPLETE ONE OF THE FOLLOWING

**CSE 20** - Introduction to Computing I  
(2.00) ←

**C S 1A** - Object-Oriented Programming  
Methodologies in JAVA (4.50)

**Or**

**C S 2A** - Object-Oriented Programming  
Methodologies in C++ (4.50)

**Or**

**C S 21A** - Python for Programmers (4.50)

**ME 21** - Engineering Computing (4.00) ←

**ENGR 11** - Programming & Problem-  
Solving in MATLAB (5.00)

### CHEMISTRY REQUIREMENT

**CHEM 2** - General Chemistry I (4.00) ←

**CHEM 1A** - General Chemistry  
(5.00)

**And**

**CHEM 1B** - General Chemistry  
(5.00)

### PHYSICS REQUIREMENT

**PHYS 8** - Introductory Physics I for  
Physical Sciences (4.00) ←

**PHYS 4A** - General Physics: Calculus  
(6.00)

**PHYS 9** - Introductory Physics II for  
Physical Sciences (4.00) ←

**PHYS 4B** - General Physics: Calculus  
(6.00)

**And**

**PHYS 4C** - General Physics: Calculus  
(6.00)

### END OF AGREEMENT