

**Baccalaureate Degree**

Students graduating with a baccalaureate degree from MiraCosta College shall possess sufficient depth in the field of applied biomanufacturing to contribute to entry-level career positions within the region. This depth will be provided through the completion of at least 24 lower-division and 34 upper-division semester units in the major. The college catalog will clearly differentiate upper-division and lower-division coursework.

Upper-division courses will be open only to students enrolled in the baccalaureate degree program.

- A. Upper-division courses will require lower-division knowledge and apply that knowledge as demonstrated measures of critical thinking through writing, oral communication, or computation.
- B. Upper-division courses will typically have prerequisites that have been established using content review of the entry skills necessary to be successful as outlined in the California Code of Regulations.
- C. Upper-division courses may encompass research elements, workforce training, apprenticeships, internships, practicum, or capstone projects.

The Courses and Programs Committee (CPC) determines which courses can be used to implement the district's goals for the baccalaureate degree. The course approval process is detailed in the Courses and Programs Committee Handbook.

**Lower-Division General Education**

Students in the baccalaureate program must complete 37-to-41 semester units of lower-division general education as part of the lower-division course requirements for the baccalaureate degree. Students may satisfy this requirement by completing one of the following:

- A. The California State University General Education (CSU-GE) Breadth pattern (Plan B)
- B. The Intersegmental General Education Transfer Curriculum (IGETC) pattern (Plan C).
- C. A bachelor's degree from an institution accredited by an agency recognized by the U.S. Secretary of Education.

Students enrolled in the baccalaureate program who have not completed the CSU-GE or IGETC pattern must complete any remaining CSU-GE or IGETC Areas.

Placement of courses on CSU-GE and IGETC is governed by the California State University (CSU) and University of California (UC) and will be in accordance with CSU and UC transfer submission and acceptance policies.

Lower-division general education courses for the baccalaureate degree will fulfill the following criteria related specifically to the designated CSU-GE or IGETC Area:

- A. CSU-GE Area A, English Language Communication & Critical Thinking; IGETC Area 1, English Composition

Courses emphasize development of students' communication and reasoning skills. These areas require coursework in communication in the English language, to include both oral and written communication. Critical-thinking courses will develop the students' abilities to analyze, criticize, and advocate ideas; to reason inductively and deductively; and to reach well-supported factual or judgmental conclusions.

- B. CSU-GE Area B1-3, Scientific Inquiry & Quantitative Reasoning; IGETC Area 5, Physical & Biological Sciences

Courses will develop the student's knowledge of scientific theories, concepts, and data about both living and nonliving systems. Students will achieve an understanding and appreciation of scientific principles and the scientific method, as well as the potential limits of scientific endeavors and the value systems associated with human inquiry.

- C. CSU-GE Area B4 and IGETC Area 2, Mathematical Concepts & Quantitative Reasoning

Courses will be designed so that students will not just practice computational skills, but will be able to explain and apply basic mathematical concepts and will be able to solve problems through quantitative reasoning.

- D. CSU-GE Area C and IGETC Area 3: Arts & Humanities

Courses will cultivate and refine students' affective, cognitive, and physical faculties through studying great works of the human imagination. Courses will encourage students to analyze and appreciate works of philosophical, historical, literary, aesthetic, and cultural importance from Western and non-Western perspectives. Activities may include participation in aesthetic, creative experiences. Courses that primarily focus on skill development will be excluded.

- E. CSU-GE Area D and IGETC Area 4: Social & Behavioral Sciences

Courses provide students with the understanding that human social, political, and economic institutions and behavior are inextricably interwoven. Courses will ensure that students have the opportunity to develop understanding of the perspectives and methods of the social and behavioral sciences. Courses will help students gain an understanding and appreciation of the contributions and

perspectives of men, women, and of ethnic and other minorities and a comparative perspective on both Western and non-Western societies.

F. CSU-GE Area E: Lifelong Learning and Self-Development (CSU Only)

Courses in this area are designed to equip students for lifelong understanding and development of themselves as integrated physiological, social, and psychological beings. Courses will draw on findings from the biological, behavioral, and social sciences to study humans from psychological, sociological, and physiological perspectives.

G. CSU-GE Area F and IGETC Area 7: Ethnic Studies

Courses shall have the following course prefixes: African American, Asian American, Latina/o American, or Native American Studies. Similar course prefixes (e.g., Pan-African Studies, American Indian Studies, Chicana/o Studies, Ethnic Studies) shall also meet this requirement. Courses that are approved to meet this requirement shall meet at least three of the five ethnic studies competencies. These competencies can be found on the CSU General Education Breadth Requirements website.

Successful completion of the CSU-GE or IGETC general education patterns will be in accordance with CSU-GE or IGETC certification guidelines that include the following:

1. Each course completed in CSU-GE Area A and B4 must be completed with a “C–” or a “P” or better.
2. Each course completed on IGETC must be completed with a “C” or a “P” or better.
3. Courses listed in two different areas may be used to satisfy a requirement in one area but not both areas.
4. All areas of the CSU-GE or IGETC pattern must be fully completed.
5. Students may request CSU-GE or IGETC certification, but certification is not necessary to fulfill the lower-division general education component of the baccalaureate degree.

Coursework from other institutions accredited by an agency recognized by the U.S. Secretary of Education will be approved to meet CSU-GE (Plan B) or IGETC (Plan C) requirements according to the following CSU-GE and IGETC certification guidelines:

- A. A CSU-GE or IGETC-approved course in the same area at another California community college.
- B. A course comparable to an approved MiraCosta College course on CSU-GE (Plan B) or IGETC (Plan C) or a course on another California community college CSU-GE or IGETC pattern.
- C. A lower-division course that meets the CSU-GE or IGETC area criteria.

- D. An upper-division course that is determined comparable by faculty to a lower-division CSU-GE or IGETC-approved course.
- E. Prior completion of the CSU-GE or IGETC general education pattern for a bachelor's degree at any CSU or UC.

A single course may be used to complete both a general education requirement and a lower-division major requirement.

### **Upper-Division General Education**

Students in the baccalaureate program must complete nine semester units of upper-division general education as part of the upper-division course requirements for the baccalaureate degree. Upper-division general education courses will enhance the foundational knowledge gained by students through the completion of the lower-division general education program. The further development of writing, leadership, and/or computational skills will supplement the major specific skill set that biotechnology employers seek in their employees.

- A. Students will be provided with an upper-division general education curriculum designed to be:
  - 1. An integrative learning experience that makes connections among the disciplines.
  - 2. Intentional, engaging, and meaningful.
  - 3. Contextualized to the major and global workplace.
- B. Courses will be offered in at least two disciplines outside of the biomanufacturing major.
- C. At least one course will have an emphasis in written or oral communication or on further development of computation skills and analysis.
- D. Courses will be open only to those students enrolled in the baccalaureate degree program.
- E. Comparable upper-division courses from other institutions accredited by an agency recognized by the U.S. Secretary of Education may be used to satisfy upper-division general education requirements.

The CPC determines which courses can be used for upper-division general education to implement the district's goals for the baccalaureate degree. The course approval process is detailed in the Courses and Programs Committee Handbook.