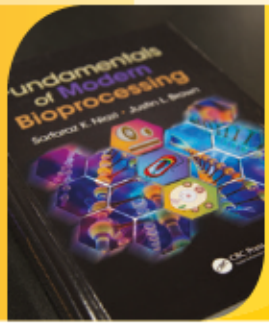
2017

Special Report: Baccalaureate Degree



MiraCosta College

MiraCosta Community College District

MiraCosta Community College District

Special Report—Baccalaureate Degree

Submitted to:

MiraCosta College

1 Barnard Drive, Oceanside CA 92056

Submitted to:

Accrediting Commission for Community and Junior Colleges,

Western Association of Schools and Colleges

December 1, 2017

Certification Page

Special Report – Baccalaureate Degree

To: Accrediting Commission for Community and Junior Colleges,
Western Association of Schools and Colleges

From: Sunita V. Cooke, Ph.D.
MiraCosta Community College District
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I certify there was broad participation/review by the campus community and believe this report accurately reflects the nature and substance of this institution.

Signatures:

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Superintendent/President

Date: 12/14/17

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Accreditation Liaison Officer

Acknowledgments

The development and implementation of a biomanufacturing baccalaureate program is an enormous undertaking. Through the collaborative efforts of individuals and groups from all segments of the College, MiraCosta welcomed its first cohort of bachelor's degree students in fall 2017. This special report details the efforts to date and documents the reflection and desire for continuous improvement that guide the College's work in meeting not only Accrediting Commission for Community and Junior Colleges (ACCJC) Standards, but also the MiraCosta College mission. The College is grateful to the following individuals and groups for their leadership in this effort and their contributions to this report.

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Introduction

MiraCosta Community College currently offers 67 associate degree programs and enrolls approximately 21,000 students in the College's credit programs. The College mission provides the foundation for all of MiraCosta's programs and services as well as for the creation of institutional goals. Providing career and technical education and lifelong learning opportunities as well as strengthening the economic and educational well-being of the community are essential to the College mission.

The passage of California Senate Bill (SB) 850 in 2014 provided MiraCosta the opportunity to offer a four-year degree. Over the past decade, the College has built well-recognized degree and certificate programs in biotechnology, capitalizing on the region's reputation in this industry and the attendant need for entry-level trained professionals. MiraCosta recognized that there will be significant growth in biomanufacturing positions in coming years and identified a niche discipline opportunity to develop a bachelor's degree to serve this growing need. The baccalaureate in biomanufacturing also complements the degree offerings at local universities and would add to the full spectrum of postsecondary degree options in the region for students in biotechnology. Additionally, the advisory board for MiraCosta's biotechnology program supported a baccalaureate in biomanufacturing.

In March 2015, the California Community Colleges Board of Governors approved MiraCosta's application to participate in the statewide baccalaureate pilot program. On October 4, 2015, MiraCosta College submitted a substantive change proposal to gain approval from the Accrediting Commission for Community and Junior Colleges (ACCJC) to offer a new Bachelor of Science in Biomanufacturing. The proposal was reviewed by the Committee on Substantive Change of the ACCJC, Western Association of Schools and Colleges at its meeting on December 1, 2015. At that meeting the committee approved the substantive change and required a follow-up report by July 15, 2016.

Response to the Commission Action Letter

MiraCosta College began offering junior and senior level courses as part of the baccalaureate in fall 2017. Based on the timing of program initiation, the College received a letter from the ACCJC in April 2017 requesting a special report be submitted by December 1, 2017, followed in early spring 2018 by a site visit. This document addresses the requirements for the special report and provides the current status of programmatic and curricular development as of fall 2017. The College will continue to refine all aspects of the program throughout the 2017/18 academic year.

Report Preparation

The College has a Biomanufacturing Bachelor's Degree Program (BDP) Workgroup that is charged with developing and implementing all aspects of the College's baccalaureate program, including appropriate coordination with governance bodies. The workgroup participated in state-level planning via biweekly conference calls and attends state meetings with the California Community Colleges Chancellor's Office and the other pilot colleges.

Initial preparation of this report began in summer 2017 by establishing the following preparation and approval timeline:

- First draft of Special Report and evidence collection completed: June/July
- Review by key personnel: August/September
- First reading by the constituent groups and District board of trustees: October
- Second reading/approval by constituent groups: November
- Second reading/approval by the board of trustees: December

The campus-wide BDP Workgroup is composed of the following members:

Gail Baughman, Ph.D., Department Chair, Biotechnology
Joanne Benschop, Articulation Officer
Kimberly Coutts, Research Analyst
Diane Dieckmeyer, Ed.D., Vice President, Instructional Services
Cindy Dudley, Technical Writer
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Freddy Ramirez, Ed.D., Dean, Admissions and Student Support
Jane Sparks, Director, Admissions and Records/Registrar
Wendy Stewart, Ed.D., Dean, Counseling and Student Development
Kathy Thiele, Secretary, Math and Sciences
Billyana Tsvetanova, Ph.D., Faculty, Biomanufacturing
Alketa Wojcik, Ed.D., Vice President, Student Services

Protocol and Policy on the Accreditation of Baccalaureate Degrees

Eligibility Requirement

Authority: *The institution is authorized or licensed to operate as a post-secondary educational institution and to award degrees by an appropriate governmental organization or agency as required by each of the jurisdictions or regions in which it operates. Private institutions, if required by the appropriate statutory regulatory body, must submit evidence of authorization, licensure, or approval by that body. If incorporated, the institution shall submit a copy of its articles of incorporation.*

Specified Baccalaureate Degree Program Evaluation Criteria:

- Authority requires that an institution be authorized or licensed as a post-secondary institution to award degrees. An institution wishing to gain approval for a baccalaureate degree will have to provide evidence of the institution's authorization to offer the degree, as required by each of the jurisdictions or regions in which it operates.

MiraCosta College is a member institution of the California Community Colleges under the direction of the California Community Colleges Board of Governors and is authorized by the California Education Code to operate as an open-admission, public institution (ER-1). The College acts under the direct authority of the MiraCosta Community College District Board of Trustees. The programs and services offered by the College follow the guidelines outlined in the California Code of Regulations, title 5. In addition, MiraCosta is accredited by the Accrediting Commission for Community and Junior Colleges (ACCJC), Western Association of Schools and Colleges (ER-2).

MiraCosta College is authorized by the California Community Colleges Chancellor's Office (CCCCO) to offer a bachelor's degree in biomanufacturing. In 2015, the California Community Colleges Board of Governors approved MiraCosta College's application to participate in the statewide baccalaureate pilot program (ER-3). On December 1, 2015, the ACCJC Committee on Substantive Change granted the College approval to offer a Bachelor of Science in Biomanufacturing (ER-4).

Accreditation Standards

I.A Mission

Standard I.A.1: *The mission describes the institution's broad educational purposes, its intended student population, the types of degrees and other credentials it offers, and its commitment to student learning and student achievement. (ER 6)*

Specified Baccalaureate Degree Program Evaluation Criteria:

- Institutions may need to make changes to the institutional mission to reflect the baccalaureate degree, which must align with the Institutional mission.
- Student demand for the baccalaureate degree should demonstrate its correlation with the institutional mission.

The MiraCosta College mission statement, pictured below, outlines the broad educational purpose of the College, its intended student population, and its commitment to student learning and achievement by pledging to "provide superior educational opportunities and student-support services to a diverse population of learners with a focus on their success." These educational opportunities include university-transfer coursework, career technical education, basic skills education, and lifelong-learning courses for both face-to-face and online students. The mission also clearly states the degrees and other credentials the College offers include undergraduate degrees and certificate programs.

In January 2015, as part of the opportunity provided by California Senate Bill 850, MiraCosta College was among 15 two-year institutions selected to participate in the Baccalaureate Degree Pilot Program by offering a bachelor's degree in biomanufacturing. Although the new degree clearly fits within the existing workforce and economic development aspects of the mission, MiraCosta College reviewed the mission and legislative requirements of Senate Bill 850. The College's four governance councils (Academic Senate, Administrative Council, Classified Senate, and Associated Student Government) considered replacing the word "associate" in the mission with "undergraduate" to be more inclusive of the new baccalaureate program in biomanufacturing. The four governance councils and board of trustees (BOT) approved the change in fall 2015 (I.A.1-1).

Student demand for the program was evident when the College's Biotechnology Department surveyed 138 current and former biotechnology students in fall 2014 and the results indicated 48 percent were "very interested" and an additional 34 percent expressed they were "interested" in the baccalaureate program (I.A.1-2). Demand was also evident by the number of individuals who completed an interest form through the Biotechnology Department webpage: 316 people signed up to receive information about the program between August 2015 and January 2017 (I.A.1-3).

Standard I.A.2: *The institution uses data to determine how effectively it is accomplishing its mission, and whether the mission directs institutional priorities in meeting the educational needs of students.*

Specified Baccalaureate Degree Program Evaluation Criteria:

- The assessment of data, in addition to measuring institutional effectiveness, must also demonstrate the effectiveness of the baccalaureate degree program.
- The assessment of the baccalaureate degree must be differentiated from the overall assessment of institutional outcomes.

MiraCosta College strives to meet its mission through effective planning, prioritization, and systematic evaluation of its efforts. The ten-year comprehensive master plan (CMP) was approved in 2011 and outlines five institutional goals as follows (I.A.2-1):

- MiraCosta Community College District will become a vanguard educational institution committed to innovation and researched best practices, broad access to higher education, and environmental sustainability.
- MiraCosta Community College District will become the institution where each student has a high probability of student success.
- MiraCosta Community College District will institutionalize effective planning processes through the systematic use of data to make decisions.
- MiraCosta Community College District will demonstrate high standards of stewardship and fiscal prudence.
- MiraCosta Community College District will be a conscientious community partner.

The effectiveness of the College in accomplishing its mission is measured in three critical ways:

- The development of a series of three-year strategic plans with objectives that align to the institutional goals outlined in the CMP.
- Assessing and comparing institutional-level metrics against institution-set standards and evidence-based goals that are aligned with the mission.
- Reflecting on and analyzing data as part of the annual program review process.

The most recent strategic plan expired in spring 2017; thus, during fall 2017, the College is developing a new plan to carry it through the completion of the *2011 Comprehensive Master Plan*. As a precursor to the development of that plan, MiraCosta College is reviewing

institutional data that include information about the community served by the College, student achievement and outcomes data, and indicators about the effectiveness of college operations as a whole.

In addition, MiraCosta annually reviews institutional-level metrics, including relevant data on student success, equity gaps, and completion, as well as the achievement of student learning outcomes as a way of measuring the College's effectiveness in accomplishing its mission.

The College's institutional program review process requires instructional and service programs (and combinations thereof) to undertake an annual review and analysis of data each fall (I.A.2-2: pp. 16–19). The programs use data on student achievement, student outcomes, and program productivity to evaluate how well they are meeting the commitments voiced in the mission to provide quality educational opportunities and support the success of students. These data show changes over time while also contextualizing student achievement data against District averages. As part of this process, programs develop plans to improve in individual areas. These plans are explicitly linked to the strategic plan's objectives, the CMP's institutional goals, and—by extension—the College mission. Once completed, program authors and supervisors evaluate the submitted program reviews on a number of factors, including how well the program is meeting the mission of the College (I.A.2-3: pp. 20–21).

The baccalaureate degree program in biomanufacturing just began in fall 2017, so data are not yet available on the effectiveness of the program. The biomanufacturing program will undergo the same program review and planning processes outlined above, and the metrics measured will include student achievement data (e.g., course completion, retention, and persistence), data on recruitment and enrollment, and achievement of student learning outcomes.

Standard I.A.3: *The institution's programs and services are aligned with its mission. The mission guides institutional decision-making, planning, and resource allocation and informs institutional goals for student learning and achievement.*

Specified Baccalaureate Degree Program Evaluation Criteria:

- The baccalaureate program is clearly aligned with the institutional mission.
- The institution has included the baccalaureate degree in its decision making and planning processes, and in setting its goals for student learning and achievement.

The College mission provides the foundation for all of MiraCosta College's programs and services as well as for the creation of institutional goals. The baccalaureate in biomanufacturing is aligned with the College's mission as a career education program that supports the needs of the growing biotechnology economic sector in San Diego County.

The biomanufacturing bachelor's degree program builds upon the College's associate degree program in biomanufacturing, allowing students who complete the associate degree or equivalent coursework from other colleges to enter as juniors and earn a baccalaureate. The bachelor's degree will better prepare them for entry-level positions and sustainable careers in biotechnology within the region and beyond.

The *MiraCosta Community College District Strategic Plan 2014–2017* contains 14 institutional objectives that describe strategies for achieving the College's five institutional goals (I.A.3-1). The baccalaureate program in biomanufacturing is aligned with Institutional Goal I, as an innovative practice that will broaden access to higher education for students; Institutional Goal II, as an institution that maximizes student success; and Institutional Goal V, as a conscientious community partner in serving to provide students with the needed skills to participate in the growing biotechnology sector and, likewise, serves the local industry through workforce development.

Support for the bachelor's degree program was an explicit goal of the BOT in the 2016/17 academic year, which was a critical time in program and curriculum development, and the program has been well supported through the program review process. All course- and program-level outcomes for learning were approved through existing curriculum processes.

I.B Assuring Academic Quality and Institutional Effectiveness

Standard I.B.2 *The institution defines and assesses student learning outcomes for all instructional programs and student and learning support services.* (ER 11)

Specified Baccalaureate Degree Program Evaluation Criteria:

- Student learning outcomes for upper division baccalaureate degree courses reflect higher levels of depth and rigor generally expected in higher education.
- Assessment must be accurate and distinguish the baccalaureate degree outcomes from those of other programs.

Upper-division courses at MiraCosta College require lower-division knowledge; students are required to apply that knowledge in critical thinking through writing, oral communication, or computation (I.B.2-1). As Table 1 illustrates, all of the upper-division biotechnology courses require the completion of lower-division coursework. These prerequisites were established by the discipline faculty and approved by the Courses and Programs Committee (CPC) using content review of the entry skills necessary to be successful.

Student learning outcomes for upper-division coursework reflect the higher levels of learning appropriate to 300- and 400-level courses that expand and build upon the

foundational knowledge of lower-division coursework. For example, BTEC 221, a lower-division course that serves as a prerequisite for BTEC 310 and BTEC 360, has as one of its student learning outcomes: "When performing a technical laboratory task, the students will produce an acceptable outcome by employing the appropriate equipment or tools effectively and safely." In BTEC 310, students are expected to perform at a higher level by "evaluat[ing] the processes used for product formation and product purification and design[ing] an approach to scale-up those processes."

Table 1. Upper-Division Biotechnology Course Prerequisites

Upper-Division BTEC Course	Prerequisite Course(s)
BTEC 300 Supply Chain and Enterprise Resource Planning in Biomanufacturing	BTEC 120 Business and Regulatory Practices in Biotechnology
BTEC 310 Biomanufacturing Process Sciences	BTEC 221 Bioprocessing: Cell Culture and Scale-up; **and** BTEC 222 Bioprocessing: Large Scale Purification
BTEC 320 Design of Experiments for Biomanufacturing	BTEC 110 Basic Techniques in Biotechnology; **and** BTEC 180/BIO 180 Biostatistics
BTEC 330 Advanced Topics in Quality Assurance and Regulatory Affairs	BTEC 120 Business and Regulatory Practices in Biotechnology
BTEC 340 Six Sigma and Lean Manufacturing	BTEC 120 Business and Regulatory Practices in Biotechnology; **and** BTEC 180/ BIO 180 Biostatistics
BTEC 360 Design of Biomanufacturing Facilities, Critical Utilities, Processes, and Equipment	BTEC 120 Business and Regulatory Practices in Biotechnology; **and** BTEC 221 Bioprocessing: Cell Culture and Scale-up; **and** BTEC 222 Bioprocessing: Large Scale Purification
BTEC 400 Bioprocess Monitoring and Control	BTEC 310 Biomanufacturing Process Sciences
BTEC 410 Methods in Quality, Improvements, Investigations, and Audits	BTEC 330 Advanced Topics in Quality Assurance and Regulatory Affairs; **and** BTEC 340 Six Sigma and Lean Manufacturing
BTEC 460 Capstone Seminar in Biomanufacturing Technologies	BTEC 310 Biomanufacturing Process Sciences
BTEC 470 Capstone Seminar in Biomanufacturing Quality	BTEC 330 Advanced Topics in Quality Assurance and Regulatory Affairs

The bachelor's degree program outcomes and assessment methods, illustrated in Table 2, also reflect higher levels of depth and rigor than are typical of lower-division programs.

Table 2. Bachelor's Degree Program Outcomes and Assessment Methods

Program Student Learning Outcomes	Assessment Methods
Students will be able to design and execute a project that identifies possible options of new biomanufacturing technologies that serve as process improvements, including technical and financial benefits, and write a report evaluating those options with a final recommendation.	Term project report and presentation.
Students will be able to perform an investigation that requires them to analyze an Out of Specification (OOS) occurrence during a production step in the manufacture of a biological substance, perform the analysis to justify the batch disposition, and incorporate this into a CAPA (Corrective Action Preventative Action) report.	Term project report and presentation.

Standard I.B.3: *The institution establishes institution-set standards for student achievement, appropriate to its mission, assesses how well it is achieving them in pursuit of continuous improvement, and publishes this information. (ER 11)*

Specified Baccalaureate Degree Program Evaluation Criteria:

- The Institution has institution-set standards for the baccalaureate degree program and assesses performance related to those standards. It uses this assessment to improve the quality of the baccalaureate degree program.
- Student achievement standards are separately identified and assessed for baccalaureate degree programs to distinguish them from associate degree programs.

Each year, the College reviews institution-set standards related to student success, including course completion, degree completion, certificate completion, transfer, and career education measures, and recommends any adjustments. These (and other) metrics are available for review across the College via Tableau dashboards that display longitudinal data and allow for disaggregation by race and ethnicity, age, and gender.

In setting the standards, the College reviews the five-year running average, statewide average, and peer institution average for all five standards. Currently, each standard is based on either the statewide average as the standard for performance or the College's prior year data or average when statewide data were not reliable. In addition to being included in the dashboards on the MiraCosta College SharePoint Portal, the standards are also published on the College's website (I.B.3-1).

Once baseline data have been established for the baccalaureate degree program and first-term data have been collected, the College will engage in similar conversations to review and set standards of achievement for the biomanufacturing program. The data will be disaggregated and the standards that are set will stand separately from those developed for lower-division courses and associate degree programs. Further, these data will be reviewed and analyzed with the biotechnology advisory board.

Standard I.B.7: *The institution regularly evaluates its policies and practices across all areas of the institution, including instructional programs, student and learning support services, resource management, and governance processes to assure their effectiveness in supporting academic quality and accomplishment of mission.*

Specified Baccalaureate Degree Program Evaluation Criteria:

- The institutional evaluation of policies and practices recognizes the unique aspects and requirements of the baccalaureate degree program in relation to learning and student support services and resource allocation and resource management.

In spring 2016, the College's Bachelor's Degree Program (BDP) Workgroup followed the requirements in the CCCCO Baccalaureate Degree Pilot Program Handbook to guide decisions about which board policies and administrative procedures needed to be created and which needed to be revised to support the development and implementation of the bachelor's degree. The workgroup identified board policies and administrative procedures related to student services (including admissions and enrollment, nonresident tuition, enrollment limitations, and fees) and to instruction (including degree and general education criteria, graduation requirements, and minimum qualifications for faculty to teach the biomanufacturing curriculum). The workgroup also established a timeline for the work to be completed by the appropriate governance committee or division, routed to the appropriate council, and, in the case of new or modified board policies, submitted for board approval (I.B.7-1).

The majority of the identified board policies and administrative procedures were routed to the College's curriculum committee. At its March 10, 2016 meeting, the CPC approved the new policy and procedure that establish the graduation requirements for the bachelor's degree as well as the policy and procedure that establish the philosophy and criteria for the baccalaureate program and general education (I.B.7-2). The committee also approved three modified administrative procedures that were revised to accommodate the new bachelor's degree.

The MiraCosta College Academic Senate approved the following new and revised board policies and administrative procedures at the senate's April 1, 2016 meeting (I.B.7-3):

- AP 4020: Program, Curriculum, and Course Development (I.B.7-4)
- BP 4025B: Philosophy and Criteria for Baccalaureate Degrees and General Education (I.B.7-5)
- AP 4025B: Philosophy and Criteria for Baccalaureate Degrees and General Education (I.B.2-1)
- AP 4100: Graduation Requirements for Degrees and Certificates—Associate in Arts or Associate in Science Degree (I.B.7-6)
- BP 4100B: Graduation Requirements for Baccalaureate Degrees (I.B.7-7)

- AP 4100B: Graduation Requirements for Degrees and Certificates–Bachelor in Science Degree (I.B.7-8)
- AP 4101: Directed Studies (I.B.7-9).

The senate also approved the Equivalency Committee's Minimum Qualifications and Equivalencies administrative procedure addendum, which defines the process for faculty teaching in the bachelor's degree program (I.B.7-10).

The Academic Senate forwarded all approved board policies and administrative procedures to the College Council, which approved them as recommendations to the superintendent/president on April 8, 2016 (I.B.7-11). The superintendent/president recommended the new and revised board policies to the BOT; the board reviewed them on May 18, 2016 and approved them on June 22, 2016 (I.B.7-12).

The College utilizes priority registration to maximize completion across student populations such that students with very high unit completion have lower priority. In reviewing practices, the College recognized baccalaureate students would likely have higher-than-normal unit totals, which would place them in a lower registration priority. As a result of this review, and as permitted by the Baccalaureate Degree Pilot Program Handbook established by the CCCCO (I.B.7-13: p.13), the College moved to recognize these baccalaureate students as high-unit majors who should retain their priority. The College's Academic Affairs Committee modified and approved the Student Enrollment Limitations and Priorities procedure (I.B.7-14) to restrict enrollment in upper-division courses to students who have been admitted to the baccalaureate program (as required by the CCCCO) and to exempt students enrolled in the program from MiraCosta College's priority registration system (I.B.7-15).

The Academic Senate approved the modified administrative procedure at its May 20, 2016 meeting (I.B.7-16). The College Council gave final approval on June 10, 2016 (I.B.7-17).

I.C Institutional Integrity

Standard I.C.1: *The institution assures the clarity, accuracy, and integrity of information provided to students and prospective students, personnel, and all persons or organizations related to its mission statement, learning outcomes, educational programs, and student support services. The institution gives accurate information to students and the public about its accreditation status with all of its accreditors. (ER 20)*

Specified Baccalaureate Degree Program Evaluation Criteria:

- Information related to baccalaureate degree programs is clear and accurate in all aspects of this Standard, especially in regard to learning outcomes, program requirements, and student support services.

The MiraCosta College Catalog, updated and published electronically by the Office of Instruction each year, is the most complete source of information about the College's courses and programs, student support services, required fees, and major policies and procedures affecting students. The Office of Instruction ensures the accuracy, clarity, currency, and inclusion of appropriate detail of all information published in the MiraCosta College Catalog through an electronic review and approval workflow process.

The 2017/18 catalog provides clear and accurate information about the baccalaureate program's admission, degree, and upper-division coursework requirements, application process, upper-division tuition, and learning outcomes (I.C.1-1). This information is also shared on the Biotechnology Department webpage. The Biomanufacturing Bachelor's Degree Program link from the department's webpage provides detailed information about baccalaureate-specific counseling and advising, fees and financial aid, curriculum, and scholarship opportunities. The page includes additional links to the required applications, a multiyear plan that shows when required lower-division prerequisite courses will be offered, and a representative four-year plan to help guide students' enrollment options (I.C.1-2).

MiraCosta communicates its accreditation status to students and the public on the College website's Accreditation webpage (I.C.1-3), which is one click away from the homepage, as well as in the College catalog (I.C.1-4).

Standard I.C.2: *The institution provides a print or online catalog for students and prospective students with precise, accurate, and current information on all facts, requirements, policies, and procedures listed in the "Catalog Requirements." (ER 20)*

Specified Baccalaureate Degree Program Evaluation Criteria:

- The catalog and other information for students shall include accurate and current information concerning all requirements for the baccalaureate degree including admissions criteria, enrollment processes, academic requirements, and all other relevant and pertinent information.

As stated above, the electronic MiraCosta College Catalog provides information about the baccalaureate program's admissions criteria, enrollment process, upper-division tuition, and program learning outcomes. The Biotechnology area of study section also explains how the new bachelor's degree program builds upon the College's associate degree program in biomanufacturing, allowing students who complete the associate degree or equivalent coursework from other colleges to enter as juniors and earn a baccalaureate (I.C.1-1).

The catalog lists and describes the courses students are required to take for both the associate and the bachelor's degree. Information about transferring associate degree credit from other colleges is located in the Admissions and Enrollment section of the catalog (I.C.2-1: p. 26). The catalog also provides a link to the Biotechnology Department webpage where students can find additional information about the baccalaureate program, including how and when to apply.

Standard I.C.3: *The institution uses documented assessment of student learning and evaluation of student achievement to communicate matters of academic quality to appropriate constituencies, including current and prospective students and the public. (ER 19)*

Specified Baccalaureate Degree Program Evaluation Criteria:

- The assessment results of student learning and student achievement in the baccalaureate degree programs are used in the communication of academic quality.

The College regularly assesses student learning at several levels (course, program, and core competency) and evaluates data related to student achievement for all courses and programs. Program learning outcome results are available on the Student Learning Outcomes webpage (I.C.3-1).

An annual program review process ensures that outcomes data are connected to planning for quality improvement and resource allocation. Student learning and student achievement data for the new baccalaureate program will be collected during the cohort's first year and evaluated during the next program review cycle (fall 2018).

Overall documentation of student achievement can be found on the CCCCO Student Success Scorecard (I.C.3-2), which is linked to the College website and is available to constituency groups on campus via the student success dashboard (I.C.3-3). The dashboard was created to make information about student success and achievement available to the entire MiraCosta College community on the portal.

Standard I.C.4: *The institution describes its certificates and degrees in terms of their purpose, content, course requirements, and expected learning outcomes.*

Specified Baccalaureate Degree Program Evaluation Criteria:

- The purpose, content, course requirements and learning outcomes of the baccalaureate degree programs are clearly described.

Like all certificate and degree programs offered at the College, the biomanufacturing baccalaureate degree has an official program outline that has been vetted through local and state approval processes (I.C.4-1). The outline describes the program's purpose, content, course requirements, and expected learning outcomes. Once the CCCCO approved the outline, the College uploaded this detailed program information to the catalog and made the outline itself available to the public via a link on the Biotechnology Department webpage (I.C.1-2).

Baccalaureate degree program information is also readily available and clearly described in a comprehensive brochure (I.C.4-2) as well as on the College website's Biotechnology Department webpage (I.C.1-2). The brochure includes information about employment and entry-level wages within the biomanufacturing industry, and the webpage includes answers to frequently asked questions about the program as well as program and Student Services contact information.

II.A Instructional Programs

Standard II.A.1: *All instructional programs, regardless of location or means of delivery, including distance education and correspondence education, are offered in fields of study consistent with the institution's mission, are appropriate to higher education, and culminate in student attainment of identified student learning outcomes, and achievement of degrees, certificates, employment, or transfer to other higher education programs. (ER 9 and ER 11)*

Specified Baccalaureate Degree Program Evaluation Criteria:

- The baccalaureate degree field of study aligns with the institutional mission.
- The baccalaureate degree program is appropriate to higher education.
- The baccalaureate degree program will culminate in identified student learning outcomes appropriate to higher education.
- The baccalaureate degree program leads to employment or transfer to other higher education programs.

The baccalaureate in biomanufacturing enhances MiraCosta College's mission to provide access to higher education and training in a career education field and to support the economic development of the biotechnology sector in San Diego County. Over the past decade, the College has built well-recognized degree and certificate programs in biotechnology, capitalizing on the region's reputation in this industry and the attendant need for entry-level trained professionals to support regional industry.

When reviewing the baccalaureate option, MiraCosta College identified a niche discipline opportunity, biomanufacturing, that complemented the degree offerings at the local universities. In this way, the College could add to the full spectrum of postsecondary degree options in the region for students in biotechnology. Additionally, the industry advisory board for MiraCosta College's biotechnology program supported a baccalaureate in biomanufacturing (II.A.1-1).

In spring 2016, the industry advisory board reviewed the upper-division curriculum, including course and program learning outcomes. The board unanimously endorsed the program and recognized the outcomes as necessary and appropriate for employment in this industry sector (II.A.1-2).

Regional employment data also supported the development of the biomanufacturing bachelor's degree. In the 2014 Talent Report on California Workforce Trends in the Life Science Industry, quantitative survey data and data collected by Burning Glass Technologies confirm that most positions in the industry require a four-year degree (55 percent based on the survey; 62 percent based on online job postings) (II.A.1-3: p. 6). Manufacturing positions in biotechnology were second only to research and development in hiring over the past two

years and are projected to be among the highest in the next two years. According to the San Diego Workforce Partnership's October 2014 Life Sciences: Labor Market Analysis, San Diego is a regional hub for life sciences by business cost index, ranking third in the U.S. behind Boston and San Francisco (II.A.1-4: p. 3).

According to the same study, San Diego will experience a 20 percent increase in average annual job openings between 2014 and 2018, which equates to 332 openings per year (II.A.1-4: p. 10). Current associate degree completers total 269 per year for the region, leaving a gap of 63. The study concludes that employers will need a workforce that preferably has earned bachelor's degrees to meet the demand. Even if all associate degree completers enrolled in a bachelor's degree program in biomanufacturing, a gap for qualified workers would still exist. The projected starting hourly wage for students completing the baccalaureate is $22.72. Experienced workers advancing into management have the potential of earning an hourly wage of $59.08, which is well above the median living wage for the region of $43.73 (II.A.1-4, p. 29).

Standard II.A.3: *The institution identifies and regularly assesses learning outcomes for courses, programs, certificates and degrees using established institutional procedures. The institution has officially approved and current course outlines that include student learning outcomes. In every class section students receive a course syllabus that includes learning outcomes from the institution's officially approved course outline.*

Specified Baccalaureate Degree Program Evaluation Criteria:

- Learning outcomes for baccalaureate courses, programs, and degrees are identified and assessed consistent with institutional processes.

The College has established student learning outcomes (SLOs) at all levels and has developed assessments to measure student learning at each level. As part of the upper-division curriculum development for the bachelor's degree in biomanufacturing, discipline faculty created SLOs that not only reflect the higher levels of learning appropriate to 300- and 400-level courses but also expand and build upon the foundational knowledge of lower-division coursework. The faculty worked with their faculty colleague at Solano College to develop all of the course-level SLOs for the upper-division courses in the program since MiraCosta College's and Solano's biomanufacturing baccalaureate degree programs are aligned. The discipline faculty at MiraCosta also collaborated with the biotechnology program's advisory board to validate the learning outcomes and competencies that guided the development of the baccalaureate program's curriculum.

All learning outcomes at the College are submitted to the Outcomes Assessment Committee for review and approval before being recorded on the course or program outline of record. Once approved, the SLOs for the upper-division baccalaureate courses and degree were recorded. The degree outcomes were identified in the 2017–2018 MiraCosta College Catalog, and the course-level outcomes are provided to students on the course syllabi.

Discussion of outcomes assessment results at the course and program levels are included in the program review process for a full analysis of program effectiveness. Each instructional department and program has a designated SLO lead who is authorized to log assessment work into the TracDat online reporting program in a timely manner. The SLO lead plans and coordinates departmental SLO activities that provide associate (part-time) and full-time faculty the opportunity to engage in dialog and provide input on SLO planning, assessment, and interventions based on assessment results. The lead also collaborates with the department chair on the SLO reflection for program review (II.A.3-1, pp. 4–6).

Learning outcomes assessment data for the new baccalaureate program will be collected during the cohort's first year and evaluated during the next program review cycle (fall 2018).

Standard II.A.5: *The institution's degrees and programs follow practices common to American higher education, including appropriate length, breadth, depth, rigor, course sequencing, time to completion, and synthesis of learning. The institution ensures that minimum degree requirements are 60 semester credits or equivalent at the associate level, and 120 credits or equivalent at the baccalaureate level. (ER 12)*

Specified Baccalaureate Degree Program Evaluation Criteria:

- A minimum of 40 semester credits or equivalent of total upper division coursework including the major and general education is required.
- The academic credit awarded for upper division courses within baccalaureate programs is clearly distinguished from that of lower division courses.
- The instructional level and curriculum of the upper division courses in the baccalaureate degree are comparable to those commonly accepted among like degrees in higher education and reflect the higher levels of knowledge and intellectual inquiry expected at the baccalaureate degree level.
- Student expectations, including learning outcomes, assignments and examinations in the upper division courses demonstrate the rigor commonly accepted among like degrees in higher education.
- The program length and delivery mode of instruction are appropriate for the expected level of rigor.

In 2015, the CCCCO approved MiraCosta College's proposal to offer a bachelor's degree in biomanufacturing (ER-3). The California Community Colleges Board of Governors adopted a regulation that gives the Baccalaureate Degree Pilot Program Handbook legal authority over the establishment of baccalaureate pilot programs (II.A.5-1). Authorization by the

CCCCO to offer a bachelor's degree certifies that the proposed program of study follows the statutory and regulatory requirements published in the handbook, and these requirements ensure approved baccalaureate degrees "are equivalent or superior to other baccalaureate degrees offered by other community colleges or universities throughout the United States" (II.A.5-2: p. 8).

The handbook specifies lower- and upper-division major and general education requirements and obliges colleges to implement a course numbering system that clearly distinguishes between lower- and upper-division courses (II.A.5-3). MiraCosta College's biomanufacturing bachelor's degree program requires a minimum of 120 units as prescribed by the CCCCO and codified in board policy (I.B.7-7), and only upper-division courses are numbered 300 or higher.

In addition, on December 1, 2015, the ACCJC's Committee on Substantive Change granted the College approval to offer a Bachelor of Science in Biomanufacturing (ER-4).

As stated under Standard I.B.2, student expectations for upper-division major and general education coursework reflect the higher levels of learning appropriate to 300- and 400-level courses that expand and build upon the foundational knowledge of lower-division coursework. The CPC defines the instructional level and rigor of upper-division coursework at MiraCosta College as follows (I.B.2-1):

- Upper-division courses require lower-division knowledge and apply that knowledge as demonstrated measures of critical thinking through writing, oral communication, or computation.
- 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.
- Upper-division courses may encompass research elements, workforce training, apprenticeships, internships, practicum, or capstone projects.

The rigor that distinguishes the baccalaureate program from associate-degree programs includes advanced application of critical thinking and depth of understanding, which are embedded in the program outcomes (see Table 2), that students gain through peer collaboration, laboratory activities, and assignments, among other elements of the curriculum. The baccalaureate degree at MiraCosta College will be awarded to students who demonstrate they have developed intellectual skills, information technology facility, affective and creative capabilities, social attitudes, and an appreciation for cultural diversity (I.B.7-7).

Standard II.A.6: *The institution schedules courses in a manner that allows students to complete certificate and degree programs within a period of time consistent with established expectations in higher education. (ER 9)*

Specified Baccalaureate Degree Program Evaluation Criteria:

- Baccalaureate degree courses are scheduled to ensure that students will complete those programs in a reasonable period of time.

The new Bachelor of Science in Biomanufacturing follows a format that builds on the associate in science program within the Biotechnology Department. Course sequencing permits a full-time student to complete the requisite 120 units for the baccalaureate in four years, as illustrated in Table 3.

The junior-level baccalaureate courses are offered in a cohort model to assist students in completing the bachelor's degree in a timely fashion. All required upper-division courses will be scheduled to be completed within a four-semester sequence (fall-spring-fall-spring) upon admission to the program. Additionally, all upper-division coursework is scheduled Monday through Thursday from approximately 8 a.m. to 12 p.m. This schedule not only guarantees students access to their classes, it also allows them to schedule work-life requirements around their learning.

Table 3. Representative Four-Year Plan

Topic	Year 1		Year 2		Year 3		Year 4	
English/ Comm	Area A1: ENGL 100 (4U)	Area 1B (3-4U)		Area 1C (3U)				
Math	MATH 64 (4U)*	BTEC 180 (4U)						
Sciences (prep for major and GE Area 5)	BIO 105 (3U) *or general bio*	CHEM 108 (4U)	CHEM 110 (5U)	CHEM 111 (5U)				
Major Courses			BTEC 110 (4U) BTEC 120 (3U) BTEC 210 (1U)	BTEC 211 (1U) BTEC 221 (1.5U) BTEC 222 (1.5U) 200-level BTEC elective courses (3U)	BTEC 310 (5U) BTEC 330 (4U) BTEC 360 (3U)	BTEC 300 (3U) BTEC 320 (4U) BTEC 340 (3U)	BTEC 400 (4U) BTEC 460 (3U)	BTEC 410 (4U) BTEC 470 (3U)

Topic	Year 1		Year 2		Year 3		Year 4	
GE Area 3	One course (3U)	One course (3U)	One course (3U)					
GE Area 4	One course (3U)	One course (3U)		One course (3U)				
Upper Division GE						PHIL 302 (3U)	BIO 340 (3U)	BUS 302 (3U)
Electives	Up to four (3U) electives to meet 120-unit requirement for the degree							
1. *Units are not bachelor's degree applicable 2. All shaded requirements may be shifted between semesters to balance unit load								
TOTAL SEMESTER UNITS (MINIMUM): 120								

Standard II.A.9: *The institution awards course credit, degrees and certificates based on student attainment of learning outcomes. Units of credit awarded are consistent with institutional policies that reflect generally accepted norms or equivalencies in higher education. If the institution offers courses based on clock hours, it follows Federal standards for clock-to-credit-hour conversions. (ER 10)*

Specified Baccalaureate Degree Program Evaluation Criteria:

- Baccalaureate degrees and the course credit in those programs are based on student learning outcomes. These outcomes are consistent with generally accepted norms and equivalencies in higher education, especially in relation to upper division courses.

The College awards degrees and course credit using clearly stated and published criteria that are based upon generally accepted norms and equivalencies in higher education. For example, before students take upper-division level courses, they must demonstrate competency in reading, mathematics, and writing, and they must have completed courses needed for upper-division coursework with a minimum 2.0 grade point average (II.A.9-1: pp. 58–59). To be eligible for the baccalaureate program, students must have earned a minimum 2.5 grade point average in the science prerequisites, and they must complete the program with a minimum 2.0 in order to be awarded the degree (II.A.9-2: p.129).

The awarding of credit for all coursework at the College is based upon student mastery of the learning objectives, as required by California Code of Regulations, title 5, section 55002. Multiple measures of assessment are used to determine that students completing courses have achieved the learning outcomes and objectives specified in the official course outline of record. The course outline for BTEC 310, for example, describes how student learning is assessed as follows (II.A.9-3):

- Summative assessment through comprehensive written exams that test mastery of lecture and laboratory content, analytical skills, and the ability to critically evaluate and apply knowledge gained in the course to novel scenarios that engage the constraints of physical, chemical, and biological sciences on the design of biological processes and how those processes scale up and scale down for future study.
- Formative assessments related to the essential theories that underpin biomanufacturing operations, including online discussion board, homework, and study quiz assignments as well as written lab notebook entries, essays, lab reports, and blog posts, that provide opportunities for regular and ongoing interaction and feedback informing students of their progress.

As stated in Standard I.B.2, the bachelor's degree program outcomes and assessment methods, illustrated in Table 2, also reflect higher levels of depth and rigor than are typical of lower-division programs.

Standard II.A.10: *The institution makes available to its students clearly stated transfer-of-credit policies in order to facilitate the mobility of students without penalty. In accepting transfer credits to fulfill degree requirements, the institution certifies that the expected learning outcomes for transferred courses are comparable to the learning outcomes of its own courses. Where patterns of student enrollment between institutions are identified, the institution develops articulation agreements as appropriate to its mission. (ER 10)*

Specified Baccalaureate Degree Program Evaluation Criteria:

- Policies for student admission into the baccalaureate program ensure that all program requirements are fulfilled, including completion of the minimum required semester units, prerequisites, experience, and general education.

Admission into the baccalaureate program is restricted to students who have completed designated science prerequisite courses with no less than a cumulative 2.5 grade point average (GPA), achieved an overall 2.0 GPA in all coursework completed at MiraCosta College or another institution, and completed ENGL 100 and a statistics course with a grade of C or better (I.B.7-7). Qualified applicants are given additional consideration if they have completed their lower-division general education requirements, they have completed additional 200-level biotechnology coursework, or they have relevant life experiences (I.C.1-1).

The College uses the California State University General Education (CSU GE) Breadth or University of California (UC) Intersegmental General Education Transfer Curriculum (IGETC) certification guidelines to approve the transfer of credit from other U.S. regionally accredited institutions to meet the baccalaureate program's lower-division general education requirements. These guidelines are published in Administrative Procedure 4025B (I.B.2-1). The transfer of credit to satisfy the program's lower-division major requirements, as outlined

in Administrative Procedure 4100B, is determined by a faculty review of the course description, comparable content, appropriate prerequisites, or C-ID number; upper-division courses from other U.S. regionally accredited institutions are evaluated for appropriate major, general education, or elective baccalaureate degree credit (I.B.7-8).

For students transferring credit internally or externally (from another college) into the bachelor's degree program, MiraCosta College has a stated commitment to evaluating prior work for lower- and upper-division requirements and communicates that information for the benefit of students on the College website (I.C.1-2). As part of the admissions review, all applications are evaluated by Admissions and Records, and the evaluation includes a full report on the status of coursework completion related to lower-division general education and prerequisites (II.A.10-1).

Standard II.A.11: *The institution includes in all of its programs, student learning outcomes, appropriate to the program level, in communication competency, information competency, quantitative competency, analytic inquiry skills, ethical reasoning, the ability to engage diverse perspectives, and other program-specific learning outcomes.*

Specified Baccalaureate Degree Program Evaluation Criteria:

- Student learning outcomes in baccalaureate degree programs are consistent with generally accepted norms in higher education and reflect the higher levels expected at the baccalaureate degree level.

As discussed in Standard II.A.5, the philosophy behind the bachelor's degree at MiraCosta College is to recognize students who have successfully demonstrated development of intellectual skills, information technology facility, affective and creative capabilities, social attitudes, and an appreciation for cultural diversity, all attributes that align with the College's current core competencies (II.A.11-1: p.10) and general education curriculum (both lower and upper division). In addition to these accomplishments, the College anticipates that students graduating with a bachelor's degree will possess sufficient depth in the major to contribute to preparation for career positions within the region and beyond (I.B.2-1).

Student learning outcomes for upper-division coursework at the College reflect increasing depth, specialization, refinement, and preparation over their lower-division counterparts. These are consistent with accepted norms in higher education and also clearly reflect higher-level expectation appropriate to a bachelor's degree. As stated in Standard I.B.2 and illustrated in Table 2, the bachelor's degree program outcomes and assessment methods also reflect higher levels of depth and rigor than are typical of lower-division programs.

Standard II.A.12: *The institution requires of all of its degree programs a component of general education based on a carefully considered philosophy for both associate and baccalaureate degrees that is clearly stated in its catalog. The institution, relying on faculty expertise, determines the appropriateness of each course for inclusion in the general education curriculum, based upon student learning outcomes and competencies appropriate to the degree level. The learning outcomes include a student's preparation for and acceptance of responsible participation in civil society, skills for lifelong learning and application of learning, and a broad comprehension of the development of knowledge, practice, and interpretive approaches in the arts and humanities, the sciences, mathematics, and social sciences. (ER 12)*

Specified Baccalaureate Degree Program Evaluation Criteria:

- At least 36 semester units or equivalent of lower and upper division general education is required, including at least 9 semester units or equivalent of upper division general education coursework.
- The general education requirements are integrated and distributed to both lower division and upper division courses.
- The general education requirements are distributed across the major subject areas for general education; the distribution appropriately captures the baccalaureate degree level student learning outcomes and competencies.

The baccalaureate program has general education requirements distributed across the major subject areas that are integrated and distributed across both lower- and upper-division courses. Students in the program will satisfy the lower-division general education requirement for the bachelor's degree by completing either the CSU GE-Breadth or the IGETC pattern.

MiraCosta College courses approved for the CSU GE-Breadth and IGETC patterns meet the standards set forth in Board Policy and Administrative Procedure 4025B, Philosophy and Criteria for Baccalaureate Degrees and General Education, including the universal criteria of rigor, scope, autonomy, breadth, critical thinking, communication and literacy, and relevance (I.B.7-5 and I.B.2-1, respectively). Both AP 4025B and AP 4100B require at least 36 units of lower- and upper-division general education, which includes 9 units of upper-division general education and meets the standards within the ACCJC Policy on Accreditation of Baccalaureate Degrees (I.B.7-8).

Consistent with board policy, the CSU GE-Breadth and IGETC lower-division general education requirements are designed to provide the knowledge, skills, experiences, and perspectives that will enable students to expand their capacities to take part in a wide range of human interests and activities; to navigate personal, cultural, moral, and social problems that are an inevitable part of human life; and to cultivate both the requisite skills and enthusiasm for lifelong learning.

The upper-division general education curriculum for the baccalaureate program, cited in AP 4025B, is designed to be an integrative learning experience that makes connections among disciplines and is intentional, engaging, meaningful, and contextualized to the major and global workplace. The courses include the following:

- BIO 340, Molecular Mechanisms of Disease, develops students' understanding of the biological basis of human disease that will allow them to evaluate technological advances in therapeutics and diagnostics.
- BUS 302, Leadership and Personal Development, focuses on leadership and management topics related to communication, groups and teams, motivation, personal values, professional behavior, organizational structure, and diversity.
- PHIL 302, Bioethics, explores major ethical theories as they apply to contemporary issues in biology and medicine. This distribution across disciplines outside of biotechnology appropriately captures baccalaureate-level student learning outcomes and competencies.

Standard II.A.13: *All degree programs include focused study in at least one area of inquiry or in an established interdisciplinary core. The identification of specialized courses in an area of inquiry or interdisciplinary core is based upon student learning outcomes and competencies, and include mastery, at the appropriate degree level, of key theories and practices within the field of stud*y.

Specified Baccalaureate Degree Program Evaluation Criteria:

- The baccalaureate degree program includes a focused study on one area of inquiry or discipline at the baccalaureate level and includes key theories and practices appropriate to the baccalaureate degree level.

The baccalaureate program in biomanufacturing will prepare students for employment in the manufacturing sector of the biotechnology industry, which includes biotherapeutics, diagnostics, supplies and services, and industrial products.

Biomanufacturing leverages the understanding of biology to manufacture products or perform services that impact health, agriculture, the environment, and industrial needs. As a product or service progresses from discovery research through development and into production, the science becomes increasingly less isolated. Through a transformation of scale, process control, and compliance, the science of biomanufacturing lives across the product and process lifecycle within a quality management system.
The College's applied biomanufacturing baccalaureate will prepare students for work within the biotechnology industry in the unique environment of biological production where the science thrives in partnership with quality and compliance. The program's lower- and upper-division coursework in biomanufacturing was founded on student learning outcomes related to biomanufacturing science and technology as well as quality and regulatory theories and practices that are standard in the industry.

Standard II.A.14: *Graduates completing career-technical certificates and degrees demonstrate technical and professional competencies that meet employment standards and other applicable standards and preparation for external licensure and certification.*

Specified Baccalaureate Degree Program Evaluation Criteria:

- The CTE baccalaureate degree ensures students will be able to meet employment standards and licensure or certification as required in the field of study.

MiraCosta College's philosophy and criteria for baccalaureate degrees and general education (I.B.2-1) asserts students with a baccalaureate degree will "possess sufficient depth in the major to contribute to preparation for career positions within the region and beyond." To ensure the fruition of this philosophy, the College collaborated with the biotechnology program's advisory board to identify and validate the learning outcomes and competencies that guided the development of the baccalaureate program's curriculum (II.A.1-2). As a result of this collaboration, students who complete the required upper-division coursework will be sufficiently prepared to sit for key, industry-relevant certifications, identified in Table 4, which will validate the skills, abilities, and knowledge gained from the degree program.

Table 4. Upper-Division Course Preparation for Professional Certification

Aligned Coursework	Certification	Certifying Organization
BTEC 300 Supply Chain and Enterprise Resource Planning in Biomanufacturing	Certified in Production and Inventory Management (CPIM)	American Production and Inventory Control Society (APICS)
BTEC 340 Six Sigma and Lean Manufacturing	Six Sigma (yellow and green belt level)	International Association for Six Sigma Certification (IASSC) and American Society for Quality (ASQ)
BTEC 340 Six Sigma and Lean Manufacturing	Lean Manufacturing (bronze level)	Association for Manufacturing Excellence (AME)
BTEC 410 Methods in Quality, Improvements, Investigations, and Audits	Certified Quality Improvement Associate (CQIA)	American Society for Quality (ASQ)
BTEC 340 Six Sigma and Lean Manufacturing BUS 302 Leadership and Personal Development	Project Management Professional (PMP)	Project Management Institute (PMI)

II.B Library and Learning Support Services

Standard II.B.1: *The institution supports student learning and achievement by providing library and other learning support services to students and to personnel responsible for student learning and support. These services are sufficient in quantity, currency, depth, and variety to support educational programs, regardless of location or means of delivery, including distance education and correspondence education. Learning support services include, but are not limited to, library collections, tutoring, learning centers, computer laboratories, learning technology, and ongoing instruction for users of library and other learning support services.*

Specified Baccalaureate Degree Program Evaluation Criteria:

Learning support services to support the baccalaureate degree program are sufficient to support the quality, currency, rigor and depth of the baccalaureate degree and reflect the unique needs of the program.

- Resource collections are sufficient in regard to the rigor, currency, and depth expected of baccalaureate programs.

The MiraCosta College Library maintains a webpage on its website dedicated to biotechnology and biomanufacturing resources as a focal point where associate and baccalaureate students can find information and support for their area of study (II.B.1-1). Library databases have approximately 75 full-text journals (subscription and open access) covering bioengineering, biotechnology, and biomanufacturing. The dedicated webpage includes resources that support upper-division biotechnology and general education curriculum.

Librarians provide research support to all students at the reference desks and through customized instruction to meet the research needs of individual classes and departments. An online chat reference service is provided 24/7 by MiraCosta College librarians in coordination with academic librarians throughout the U.S. Additionally, the Library offers two courses in research skills and the use of resources. All services provided by the Library and other support areas are evaluated through direct and indirect assessment methods. As needs are identified by the biotechnology faculty, the Library will incorporate the requests into the already existing procedures and processes to assure baccalaureate students have the resources they need to be successful.

Learning support services include those provided through the College's new Nordson STEM Learning Center, which is located in the Oceanside Campus Library (II.B.1-2). The grant-funded center is programmed and supported by a science faculty member with reassigned time. It provides drop-in tutoring staffed by peers and degreed tutors across all of the sciences, including biotechnology, as well as workshops and STEM counseling. In addition to tutoring workspace, the center provides independent and group study areas, state-of-the art

computer equipment and software, reference materials, and resources and equipment, such as microscopes, slide sets, and scientific calculators.

MiraCosta College is also currently developing a relationship with neighboring California State University San Marcos to employ its biotechnology graduate students to provide tutoring support specifically for the College's baccalaureate students, and the College expects to recruit senior-year bachelor's degree students to tutor junior-year (and lower) students in the future.

II.C Student Support Services

Standard II.C.6: *The institution has adopted and adheres to admission policies consistent with its mission that specify the qualifications of students appropriate for its programs. The institution defines and advises students on clear pathways to complete degrees, certificate and transfer goals. (ER 16)*

Specified Baccalaureate Degree Program Evaluation Criteria:

- The prerequisites and other qualifications for the baccalaureate degree are appropriately communicated and applied to students.
- The advising of students related to the baccalaureate degree appropriately identifies course sequencing and pathways.

The eligibility requirements for admission to the biomanufacturing bachelor's degree program are communicated to students in the online college catalog (I.C.1-1), on the Biotechnology Department webpage (I.C.1-2), and in the department's brochure (I.C.4-2). The webpage and program brochure also provide a representative four-year plan to illustrate how courses within the program are sequenced.

For the fall 2017 cohort, evaluators from the Admissions and Records Office screened each applicant's transcripts to ensure the required prerequisite courses had been completed, and the Admissions and Records Office ensured the prerequisite requirements were enforced when enrolling the 23 applicants.

A designated counselor advises students who are interested in applying to the program and works with each admitted student to create a comprehensive education plan. In addition, a counselor from the College's Veterans Education Office who is familiar with the requirements of the baccalaureate program advises veterans and their dependents who wish to use their educational benefits for the program.

III.A Human Resources

Standard III.A.1: *The institution assures the integrity and quality of its programs and services by employing administrators, faculty and staff who are qualified by appropriate education, training, and experience to provide and support these programs and services. Criteria, qualifications, and procedures for selection of personnel are clearly and publicly stated and address the needs of the institution in serving its student population. Job descriptions are directly related to institutional mission and goals and accurately reflect position duties, responsibilities, and authority.*

Specified Baccalaureate Degree Program Evaluation Criteria:

- The job descriptions for faculty members teaching in the baccalaureate degree accurately reflect the duties and responsibilities associated with the position.

Job announcements at MiraCosta College currently serve as job descriptions for faculty positions and include the duties and responsibilities associated with each position. Each description includes the level of assignment (e.g., tenure track or not), desirable qualifications, expected scholarly activities (e.g., advisory committee work in the career technical education disciplines), and expected participation in department service and collegial governance. Included in the standard language for faculty is the requirement to develop/review curriculum, to assess student learning, and to contribute to the mission of the College.

The job announcement for faculty members teaching in the baccalaureate program accurately describe the duties and responsibilities associated with a biomanufacturing faculty position. In 2017, for example, the essential duties and responsibilities of the biomanufacturing instructor included the following: Provide instruction in one or more areas of the biotechnology program, primarily in the lower-division coursework related to the bioprocessing/biomanufacturing certificates and the associate degree in biomanufacturing (III.A.1-1). In 2016, the position included the following as an essential responsibility: Provide instruction in one or more areas of the biotechnology program, primarily in the upper-division coursework of the biomanufacturing degree (III.A.1-2).

Both the 2016 and 2017 biomanufacturing instructor job descriptions included the following among the essential duties and responsibilities:

- Develop, review, and maintain currency of curricula for courses the individual teaches and develop new biotechnology curricula in collaboration with lead instructors as appropriate.
- Participate in the development, assessment, and evaluation of student learning outcomes.

- Work in collaboration with other full-time instructors of the Biotechnology Department in coordinating curriculum and mentoring associate faculty in these courses.
- Serve as a liaison between the San Diego biotechnology community and the Biotechnology Department.

Standard III.A.2: *Faculty qualifications include knowledge of the subject matter and requisite skills for the service to be performed. Factors of qualification include appropriate degrees, professional experience, discipline expertise, level of assignment, teaching skills, scholarly activities, and potential to contribute to the mission of the institution. Faculty job descriptions include development and review of curriculum as well as assessment of learning. (ER 14)*

Specified Baccalaureate Degree Program Evaluation Criteria:

- The qualifications for faculty teaching upper division courses in the baccalaureate degree include the requirement for a master's degree (or academic credentials at least one level higher than the baccalaureate degree) or doctoral degree, in an appropriate discipline.
- In cases where no master's degree is available for the field of study, the qualifications for faculty teaching upper division courses in the baccalaureate degree include a bachelor's degree in the discipline or closely related discipline, and a master's degree in any discipline, and demonstrated industry work experience in the field for a minimum of six years, and commonly required industry-recognized certification or professional licensure.
- The Commission may require some faculty in non-career technical education baccalaureate programs to have the recognized terminal degree in the field of study.

MiraCosta ensures that new faculty members have the requisite subject matter expertise and skills by strictly enforcing minimum qualifications as mandated by the CCCCO in the most current edition of Minimum Qualifications for Faculty and Administrators in California Community Colleges. The College also adheres to the full-time faculty recruitment and hiring procedures as defined in AP 7120.4 (III.A.2-1) and the procedure for determining comparable degree major titles for faculty teaching upper-division courses in the baccalaureate program (I.B.7-10).

Faculty teaching in the baccalaureate program are required to have a minimum of a master's degree in the subject area or related field as required by the ACCJC Policy on the Accreditation of Baccalaureate Degrees. The three full-time faculty currently teaching in the baccalaureate program at MiraCosta College have doctoral degrees in the biological sciences. All associate faculty have at least a master's degree and two years of professional work experience within the biotechnology industry.

Standard III.A.7: *The institution maintains a sufficient number of qualified faculty, which includes full-time faculty and may include part-time and adjunct faculty, to assure the fulfillment of faculty responsibilities essential to the quality of educational programs and services to achieve institutional mission and purposes*.

Specified Baccalaureate Degree Program Evaluation Criteria:

- There is at least one full-time faculty member assigned to the baccalaureate degree program.

The Biotechnology Department currently has three full-time and six associate faculty members assigned to the baccalaureate degree program, which is sufficient to assure the quality of the program. During the current academic year, the department is offering 3.67 full-time equivalent faculty (FTEF) courses. When the program is fully implemented in 2018/19, the Biotechnology Department will offer 4.2 FTEF.

As stated above in Standard III.A.2, all faculty assigned to the baccalaureate program meet or exceed the CCCCO minimum qualifications and ACCJC requirements as set forth in the Policy on the Accreditation of Baccalaureate Degrees; thus, all possess at least a master's degree and, as necessary, two years of professional biotechnology industry experience.

III.B Physical Resources

Standard III.B.3: *To assure the feasibility and effectiveness of physical resources in supporting institutional programs and services, the institution plans and evaluates its facilities and equipment on a regular basis, taking utilization and other relevant data into account.*

Specified Baccalaureate Degree Program Evaluation Criteria:

- The facilities and other physical resources utilized by the baccalaureate degree program are evaluated for effectiveness for the program on a regular basis.

The current biotechnology program has sufficient facilities, equipment, and supplies to support the baccalaureate program within the existing biotechnology building located at the main Oceanside Campus, which was renovated in summer 2017 in advance of the first cohort of junior-level students. All major equipment necessary for biomanufacturing instruction was upgraded in the past two years through local, state, and federal funding sources.

The College has a number of processes in place to evaluate its facilities and equipment on a regular basis. These include the following:

- The annual program review process allows for program, department, division, and area equipment evaluation and planning, which are ongoing and done at the appropriate organizational level. Prioritization of requests is completed as part of the annual budget and planning process (III.B.3-1).
- The District updates the Five-Year Construction Plan (III.B.3-2), Five-Year Scheduled Maintenance and Special Repairs Plan (III.B.3-3), and Space Inventory Report (III.B.3-4) on a regular basis. These plans and reports require pertinent utilization and planning data.
- A facilities assessment is completed every three to four years by a team from the Foundation for California Community Colleges on behalf of the CCCCO (III.B.3-5). This detailed assessment provides the District and the state with data to support additional funding for scheduled maintenance and building system replacement; a Facilities Condition Index Report (III.B.3-6) provides data for each building with total repair costs and replacement value.

III.C Technology Resources

Standard III.C.1: *Technology services, professional support, facilities, hardware, and software are appropriate and adequate to support the institution's management and operational functions, academic programs, teaching and learning, and support services.*

Specified Baccalaureate Degree Program Evaluation Criteria:

- Technology services, professional support, facilities, hardware, and software utilized by the baccalaureate degree program are appropriate and adequate for the program.

The College provides appropriate and adequate technology services, professional support, facilities, hardware, and software to support MiraCosta College's management and operational functions, academic programs, teaching and learning, and support services. Technology support is fully integrated within MiraCosta College's technology infrastructure used across all instructional and administrative areas of the College. All learning spaces and classrooms are technology-enhanced with data projectors, computers, miscellaneous media equipment, and wireless connections accessible across all College sites by all registered students.

The College ensures that its various types of technology needs are identified in appropriate planning documents and via the program review process. Academic Information Services (AIS) maintains a complete list of all computers and servers in the District and has developed a replacement plan that includes annual assessment of existing uses and needs (III.C.1-1).

Educational technology (e.g., Canvas, Blackboard, Moodle, SPSS, Minitab, Microsoft Office, Adobe Creative Suite, and Turnitin) is available to all baccalaureate students. In addition, the Biotechnology Department recently upgraded the statistics software package to JMP, which is an industry standard for statistical and data analysis. The software is available in PC and Mac formats and includes the option for personal copy installation for all faculty, staff, and students. The software is also installed on all campus computer labs and virtual environments.

The College evaluates the effectiveness of its technology through survey data and the information collected in the program review process, where each department assesses the department's technology needs. MiraCosta makes decisions about technology services, facilities, hardware, and software based on departments' program review requests.

III.D Financial Resources

Standard III.D.1: *Financial resources are sufficient to support and sustain student learning programs and services and improve institutional effectiveness. The distribution of resources supports the development, maintenance, allocation and reallocation, and enhancement of programs and services. The institution plans and manages its financial affairs with integrity and in a manner that ensures financial stability. (ER 18)*

Specified Baccalaureate Degree Program Evaluation Criteria:

- The financial resources allocated to the baccalaureate degree program are sufficient to support and sustain program student learning and effectiveness.
- Financial resources allocated to the baccalaureate degree program ensure the financial stability of the program.

MiraCosta College's institutional planning and resource allocation processes are rooted in the College's mission and institutional goals in order to assure that financial resources are sufficient to support all instructional programs and services. The efficacy and sufficiency of budget allocations are reviewed annually through program review, the results of which are linked to the annual District budget development process per board policy (III.D.1-1).

All requests for additional resources must be made as part of the program review process in order for them to be considered for funding. Resource requests from program review are made in four categories—staffing, facilities, equipment and supplies, and technology requests.

The baccalaureate program was granted an initial start-up budget that provided funds for faculty, equipment/facilities, and other operating expenses. The Biotechnology Department received an increased funding allocation for the 2017/18 academic year to sufficiently

support the growth and offerings of the new baccalaureate program, including an instructional aide, a tutoring budget, and a supply budget (III.D.1-2). Additional budget allocation for the program will be assessed through the program review process.

The District routinely has unqualified audits and no findings dating back to at least 2010. MiraCosta College's strong management and fiscal leadership ensure the baccalaureate budget resource requirements will be part of the annual budgeting process and will be sustainable for the long term.

IV.A Decision-Making Roles and Processes

Standard IV.A.4: *Faculty and academic administrators, through policy and procedures, and through well-defined structures, have responsibility for recommendations about curriculum and student learning programs and services.*

Specified Baccalaureate Degree Program Evaluation Criteria:

- The faculty and academic administrators assigned to the baccalaureate degree program have responsibility for making recommendations to appropriate governance and decision-making bodies about the curriculum, student learning programs, and services for the program.

Through clearly delineated roles, processes, committees, structures, and policies, MiraCosta College faculty and academic administrators have responsibility for recommendations regarding curriculum and student learning programs and services. These roles, structures, and processes are codified in Board Policy and Administrative Procedure 2510 (IV.A.4-1) and the Governance Manual (IV.A.4-2).

Upon Board of Governors approval of MiraCosta College's proposed bachelor's degree in biomanufacturing, the College's ad hoc bachelor's degree planning committee expanded its membership to include faculty, staff, and administrators campus wide to begin the work of developing and implementing all aspects of the College's baccalaureate program, including making recommendations to appropriate governance bodies.

The BDP workgroup meets monthly to continue its charge of identifying baccalaureate program needs, creating action plans, and making recommendations to appropriate governance and decision-making bodies (IV.A.4-3). Recommendations for addressing the baccalaureate program's needs are shared through regular updates and discussions at weekly "all deans" meetings, which are attended by the College's Instructional Services Division and Student Services Division vice presidents and their deans, as well as at the biweekly meetings of the College Council, which is the primary advisory for college-wide matters.

Members of the College Council, which is composed of the superintendent/president, three divisional vice presidents, Academic Senate president and designee, faculty chairs of the College's five governance committees, Administrative Council representative, and Classified Senate and Associated Student Government presidents, make recommendations about baccalaureate program issues and needs to the superintendent/president, including how issues related to student learning programs and services should be routed through the College's governance model.

In addition, the College's annual program review process features the directed, intentional responsibility of both faculty and academic administrators to review the performance of student learning programs and services. The early stages of program review within instructional departments focus on the dialog of faculty within a program and their performance against stated standards (IV.A.4-4). This phase of program review also includes faculty discussion on SLOs and assessments as well as disaggregated student data on success. The subsequent stage of the process provides for faculty and dean discussion of program performance and the identification of any planning for program growth, revitalization, or maintenance. Prioritization and decisions related to recommendations on student learning programs and services, based on the program review process, originate from the faculty and administrators closest to it.

The program review process also allows for evaluation of staffing needs to support students in the program. One such need was addressed through assigning part of a current full-time counselor's load to the program. The College is also identifying a student success specialist to serve as a liaison between program and counseling faculty. The specialist will develop community-building activities, such as industry tours and social events, and regularly check in with students on their academic progress and well-being. Discipline faculty, counselors, and the success specialist will meet regularly throughout each term to monitor student progress and intervene as needed with support services.

Decisions about initiating new curriculum and making modifications to existing curriculum for the baccalaureate program are the sole responsibility of the biotechnology faculty. The Biotechnology Department chairperson coordinates and manages curriculum within the department and confirms all new curriculum proposals have been fully vetted. As the academic administrator for the program, the dean of Math and Sciences reviews all new and modified curriculum and assigns faculty to teach biotechnology courses based on recommendations made by the department chair.

New and modified curriculum is reviewed by the College's CPC. The committee acts by means of careful study and open discussion to assure MiraCosta College's curriculum has consistent quality and rigor and complies with state regulations and standards as well as with

District policies and procedures. The committee recommends routine curricular matters to the Academic Senate for ratification on the senate's consent calendar, and the senate forwards them directly to the BOT for final approval. Once approved by the BOT, all course and program proposals are submitted to the CCCCO for approval (I.B.7-4). As described in Standard I.B.7, this initiation-to-approval process was followed when the baccalaureate program and courses were approved in 2016.

Catalog Requirements

MiraCosta College publishes an electronic catalog every year. The information published in the catalog is effective for the academic year beginning with the fall semester and concluding with the summer intersession. The catalog is available in Portable Document Format (PDF) for those who wish to print the entire catalog or individual pages from it.

Information about the baccalaureate degree program is located in the Biotechnology area of study section of the 2017/18 catalog (I.C.1-1: pp.129–137).

- General Information
  - Course, Program, and Degree Offerings: The catalog describes all lower- and upper-division biotechnology courses that are included in the baccalaureate program. Course descriptions summarize the purpose and key topical areas of each course and, where applicable, identify which certification test the course prepares students for. These descriptions include unit values, enrollment limitations (such as prerequisites, corequisites, and advisories), the number of hours the course meets for lecture and/or lab, and typical semesters the course is offered. The catalog also describes the four certificates, two associate degrees, and one bachelor's degree students can earn in the field. Each program description includes the transfer and/or occupational prospects of students who complete the program as well as the program's required coursework. Program descriptions also list course equivalencies where applicable and include the number of units required to fulfill the program's requirements.
  - Student Learning Outcomes for Programs and Degrees: The catalog descriptions of the four certificates, two associate degrees, and one bachelor's degree offered under the biotechnology area of study at MiraCosta College include program SLOs.
- Requirements for
  - Degrees, Certificates, Graduation, and Transfer: The catalog descriptions of the College's four biotechnology certificates, two biotechnology associate degrees, and biomanufacturing bachelor's degree include coursework, residency, unit, and grade point average requirements. Degree program descriptions include general education coursework required to graduate, and the baccalaureate degree description includes the eligibility requirements required for admission to the program.

Commission Policies

Standards and Performance with Respect to Student Achievement

As outlined in Standards I.A.2 and I.B.3, MiraCosta College has defined a number of student achievement metrics that it tracks on a regular basis. These include but are not limited to course completion, retention, persistence, degree and/or certificate completion, and transfer. These metrics are discussed annually at the college level and institution set-standards have been identified. Data such as these are also reviewed at the program level as part of the annual program review process, and any improvements that may be needed as a result of the analysis are captured in action plans. Action plans that require funding are considered in the College's annual resource allocation process.

In addition to the achievement data MiraCosta has been tracking for some years, newer metrics have been identified that will help track student progress and achievement within the guided pathways framework that is currently being designed by the College. In addition to the more traditional metrics listed above, MiraCosta will also track cohort data related to completion of matriculation services, completion of English and math within the first year, completion of a comprehensive education plan, and attainment of successive numbers of units over time.

For career education and other applicable programs (including the biomanufacturing baccalaureate program), the College also reviews job placement and licensure pass rates. With the implementation of the Strong Workforce program at the state level and the metrics that are being provided, MiraCosta can now more effectively track key employment data. The College's Strong Workforce Committee reviews both student achievement and employment data on a regular basis and makes recommendations on expanding and improving existing programs or developing new programs.

In spring 2017, the College began discussing the integration of a number of plans related to various initiatives across campus. Ideally that integration process will come together under the umbrella of the 2018–2020 strategic plan. During initial discussions, it became apparent that improvements could be made to all parts of the integrated planning and evaluation process, including program review. Some of those improvements may include the development of a more robust "college review" process (in addition to the normal departmental program review process) to incorporate, fund, and track larger-scale, college-wide work and the involvement of separate departments therein. Any such process that is developed or revised would include a set of metrics and standards that would be reviewed on a regular basis and used for continuous improvement.

Credits, Program Length, and Tuition

MiraCosta College's degree-applicable credit courses conform to the criteria and standards specified in title 5, sections 55002.5 and 55062, of the California Code of Regulations, including the relationship between units and required lecture and/or laboratory contact hours. The College's definition of credit hour is consistent with applicable federal and state regulations as they apply to community college districts (I.B.7-4). MiraCosta College's Bachelor of Science in Biomanufacturing is based on a recognized field of study in higher education and represents four years of full-time academic work.

The College is guided in its development of curriculum and programs by the CCCCO Program and Course Approval Handbook and uses the CCCCO Student Attendance Accounting Manual to ensure that all credit courses are scheduled within the correct range of student contact hours relative to course units. The CPC is responsible for ensuring that curriculum and programs are of appropriate length, breadth, and rigor.

Fees are regulated for the California Community Colleges statewide. The fee for lower-division credit courses is currently $46 per unit. The College charges an additional $84 per unit for the upper-division biotechnology and general education courses required for the baccalaureate program.

The College does not offer any credit clock hour courses or programs.

Transfer Policies

Transfer-of-credit policies are made available to students and the public in the College catalog (I.C.2-1). These policies state the College evaluates courses from other U.S. regionally accredited colleges or universities for associate degree requirements based on C-ID number or course description, comparable or equivalent content and student learning outcomes, and appropriate prerequisites. Reciprocity among regionally accredited institutions of higher education determines how UC and CSU general education courses transfer among colleges.

MiraCosta College's transfer-of-credit policies also contain information about the evaluation of international coursework and alternative sources of credit, such as that earned from Advanced Placement exams. Specific information about transfer of credit from foreign institutions is available on the College website (CP-1).

As stated in Standard II.A.10, the transfer of credits for the baccalaureate program are described in an administrative procedure (I.B.2-1). For students transferring credit internally or externally (from other colleges) into the bachelor's degree program, the College has a stated commitment to evaluating prior work for lower- and upper-division requirements and

communicates that information for the benefit of students on its website. The Biomanufacturing Bachelor's Degree webpage states: "Courses taken from other institutions must be evaluated for prerequisite equivalency. Please make an appointment with a MiraCosta counselor for course review" (I.C.1-2). In addition, the Application for the Bachelor of Science in Biomanufacturing states: "The courses used in this application are subject to evaluation and approval by MiraCosta College for completion of the bachelor's degree" (CP-2).

Distance Education and Correspondence Education

The upper-division biotechnology courses required for the baccalaureate degree are not approved for distance education. Two of the three required upper-division general education courses have been approved to be offered 100 percent online.

Approval of distance education courses occurs within the CPC according to the guidelines set forth in the Courses and Programs Committee Handbook (CP-3: p. 69). The faculty director of Online Education, who is a permanent member of the CPC, ensures distance education courses are approved separately and approved courses match the same standards of quality as all approved courses at the College (per California Code of Regulations, title 5, sections 55206 and 55202, respectively). The faculty director and CPC are also responsible for ensuring the courses approved for online delivery are compliant with Accreditation Standards and local policies as set forth in MiraCosta College's Online Education Plan (CP-4: pp. 3–6).

Regular, substantive, instructor-initiated interaction with students is addressed in Administrative Procedure 4105 (CP-5) and is one of the essential elements included in the Online Educators Committee Class Quality Guidelines document, which also includes examples of best practices (CP-6:p. 1). Instructors typically use their syllabus to communicate the methods for regular and effective instructor-student contact, which can include regular online discussions, online office hours, web conferencing, and screen-sharing sessions.

The College has policies, procedures, and processes in place to verify that a student who registers for a distance education course is the same student who participates in and completes the course or program and receives academic credit (CP-5). MiraCosta has implemented a single user id and password for employees and students across all college systems, including PeopleSoft Campus Solutions (SURF), Degree Works, Class Scheduler, and Blackboard. For application systems that reside outside of the District's data center, such as Moodle, Canvas, and CCC Apply, the same user id and password are authenticated by the College before credentials are passed to the intended system using an authentication protocol.

District security standards require that student passwords be changed once a year, while faculty and staff must change passwords twice a year. Passwords cannot be repeated and there are minimal standards for password length: a mix of upper, lower, special, and numeric characters. The user id and password are locked if the password is entered incorrectly multiple times within a short window of time.

The Online Education Department carefully reviews all classes listed as hybrid or online at the beginning of each term to determine whether or not they are in compliance with Administrative Procedure 4105. The department then contacts course instructors who are not using a College content management system to make sure students' identities will be authenticated via proctored exam or an alternative technology.

The College ensures both hardware and software are current and sufficient to support MiraCosta College's distance education offerings. Software includes course management systems, plagiarism programs, collaborative tools (i.e., voice authoring and web conferencing), screencasting, and virtual desktops with specialized software.

In addition, AIS works collaboratively with the Professional Development Program to support instruction for faculty and staff in the effective use of the available technology. Instruction can be customized or can occur as group training opportunities. Individual support is also provided via email, phone, or in person when needed. In addition, just-in-time training and support are provided to students for applicable student systems via computer lab instructional aides as well as online self-help materials.

Institutional Disclosure and Advertising and Recruitment Materials

MiraCosta College provides accurate, timely, and appropriately detailed information regarding its mission, programs (certificate, associate degree, and baccalaureate), services, locations, and learning outcomes. Communication about the baccalaureate program occurs in a variety of ways, including the following:

- Posting of signage in appropriate locations on campus and in the community (CP-7).
- Publication of information in the online catalog (I.C.1-1).
- Publication of information in the Biotechnology Department brochure (I.C.4-2).
- Publication of information on the College website (I.C.1-2), including frequently asked questions.

Responsibility for the accuracy of the information lies with a number of offices, including the Public Information Office, Biotechnology Department, Student Services Division, Instructional Services Division, and President's Office. Information about the College's accredited status can be found on the College website and in the annual catalog.

MiraCosta College has a clearly delineated board policy and procedure for students or the public to share their concerns or complaints (CP-8). The steps for resolving an issue, as well as references and relevant forms, are available on the Concerns and Complaints webpage on the College website (CP-9). From that webpage, an individual can also find links to submit complaints regarding the institution to the ACCJC or the CCCCO. Similar information can be found in the College catalog (CP-10).

MiraCosta Community College District

miracosta.edu

Community Learning Center: 1831 Mission Avenue, Oceanside, CA 92058 ▸ P 760.795.8710 ▸ F 760.795.8730
Oceanside Campus: 1 Barnard Drive, Oceanside, CA 92056 ▸ P 760.757.2121 ▸ F 760.795.6609
San Elijo Campus: 3333 Manchester Avenue, Cardiff, CA 92007 ▸ P 760.944.4449 ▸ F 760.634.7875
Technology Career Institute & North San Diego Small Business Development Center: 2075 Las Palmas Drive, Carlsbad, CA 92011 ▸ P 760.795.6820 ▸ F 760.795.6826