

**Substantive Change Proposal**

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**Substantive Change Proposal**

**Certificate of Achievement: Biotechnology Laboratory Technician**

**Submitted by:**

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**1530 West 17th Street**

**Santa Ana, CA 92706**

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**Submitted to:**

**Accrediting Commission for Community and Junior Colleges**

**Western Association of Schools and Colleges**

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	1. Concise description

Students who complete this certificate will obtain a certificate of achievement in biotechnology, will have obtained proficiency in basic and more advanced laboratory skills, and will have been exposed to various aspects of the industry through coursework and internships. The major goal of the Biotechnology certificate program is to provide students with information and skills which will provide employment and advancement opportunities in the biotechnology sector.

* 1. Relationship to SAC Mission

**District and College Mission**

Santa Ana College is part of the Rancho Santiago Community College District (RSCCD), one of the largest community college districts in California.

**The mission of the Rancho Santiago Community College District** is to provide quality educational programs and services that address the needs of our diverse students and community.

In fall 2014, RSCCD served 40,653 students (excluding positive attendance academy courses): 25,710 credit and 14,943 non-credit students.[[1]](#footnote-1) The district is represented by two comprehensive colleges, consisting of a total of four centers and approximately 40 sites under the aegis of Santa Ana College, encompassing a total of 193 square miles and comprising 24% of Orange County. The district service area and community are composed of six major cities within Orange County: Anaheim, Garden Grove, Orange, Santa Ana, Tustin, and Villa Park. Over one million residents live within RSCCD boundaries, and this number is projected to increase 6% by 2020 (Center for Demographic Research, 2012). Moreover, a population increase of four percentage points by 2020 is projected for Santa Ana (SAC’s primary service area).

In addition, the second largest non-credit (adult education) program in the State is offered through the School of Continuing Education. Law enforcement professionals receive instruction through the Orange County Sheriff’s Regional Training Center, and two off-campus fire technology training centers provide students with hands-on experiences that simulate real-world conditions. The college currently includes 503,380 assignable square feet of space that also features a Digital Media Center, the first facility of its kind in Orange County, which combines education and business in the digital media industry. In fall 2014, SAC served 29,757 students (excluding positive attendance academy courses): 18,491 students enrolled in credit courses, while 11,266 students enrolled in non-credit.[[2]](#footnote-2)

Santa Ana College is celebrating one hundred years of service to students and the community in 2015. The college offers a full complement of general education, transfer-level, pre-collegiate level, and career technical education classes leading to an Associate’s degree or career/technical certificate aligned to its mission and that of the Rancho Santiago Community College District (RSCCD):

**The mission of Santa Ana College** is to be a leader and partner in leading intellectual, cultural, technological, and workforce development needs of our diverse community. Santa Ana College provides access and equity in a dynamic learning environment that prepares students for transfer, careers, and lifelong intellectual pursuits in a global community.

The Biology Department program is a discipline which focuses on several aspects of the college mission, including “intellectual, cultural, technological and workforce development needs of our diverse community.” **The mission of the current Biotech...program** is: The purpose of the department of biology is to prepare students for certification, pre-professional careers and a curriculum in a four-year institution leading to a baccalaureate degree in such areas as microbiology, biotechnology, teaching and cell and molecular. Our students will also be prepared to enter graduate or professional programs of specialized study such as: medicine, nursing, physical therapy, kinesiology, dentistry, medical technology, osteopathy, veterinary medicine, agriculture, forestry, optometry and dental hygiene. The biology department offers preparation ranging from actual experience in the field to working with biotech equipment and theory thereof, to design and understand of basic investigative procedures and paradigm. The biology department strives to work collegially with other departments to co-ordinate successful and high rates of transfer, i.e. CSUF and SAC nursing program. These opportunities are re-examined by the faculty in partial fulfillment of the needs regarding the direction of the student population as it changes: the returning student, the professional who needs to re-invent their career focus to be competitive in today’s workforce, the working parent, as well as the traditional student, and those seeking intellectual improvement.

* 1. Rationale, including labor market analysis

California leads the nation in having the largest concentration of biotechnology firms, with the biomedical industry accounting for the largest number of firms. Subsectors of the biomedical industry include biopharmaceuticals, medical devices, instruments and diagnostics; and research, testing, and medical laboratories.[[3]](#footnote-3) Twenty-five percent of California’s biotech employment is in the Los-Angeles-Long Beach-Santa Ana Metropolitan Area, which includes our project area, and is a region that also ranks highly in the nation for biotech employment:

* + Medical Devices employment - 1st place in US Metropolitan Areas
	+ Research, Testing, Medical labs – 3rd place in US Metropolitan Areas
	+ Drugs and Pharmaceuticals – 5th place in US Metropolitan Areas [[4]](#footnote-4)

Community colleges in this region with biotechnology programs must build their capacity to produce quality biotechnicians to meet the workforce need. A recent study of the sector for the state highlighted that the demand for biotechnicians far outpaced the supply: “community colleges in the state are under supplying the state’s labor market for entry-level biotechnology workers … In Los Angeles, Orange, and Ventura counties the supply of workforce ready students is not currently meeting demand for project openings.”[[5]](#footnote-5) For 2014, there are 276 estimated biotechnicians job openings in Los Angeles and Orange County, but the projected number of biotech graduates is only 65, of which Orange County’s contribution would be 15. Orange County is producing only 5% of the biotechnicians in the region, and the need is estimated to grow: “Orange County is projected to grow in Professional, Scientific, and Technical Services employment by 23.8 percent from 2010 to 2020, the third largest growth in its major industry clusters. The county is capitalizing on its strengths in life sciences and advanced electronics as a formidable industry cluster.”[[6]](#footnote-6)

Biotechnology Technician jobs are high-wage occupations (see Table 1).[[7]](#footnote-7) Community college training programs serve a key role in providing underrepresented and disadvantaged students access to high-wage, high-growth science technician occupations.

**Estimate of LA/OC Industry Demand for AS/CC Certificated Applicants (EMSI 2014)[[8]](#footnote-8)**

|  |  |
| --- | --- |
| **Occupation (SOC)** | **Median Hourly Wages** |
| Manufacturing Production Technicians (17-3029.09) | $29.12 |
| Biological Technicians (19-4021) | $20.63 |
| Chemical Technicians (19-4031) | $19.94 |
| Quality Control Analysts (19-4099.01) | $21.56 |
| Medical and Clinical Laboratory Technicians (29-2012) | $17.96 |
| Inspectors, Testers, Sorters, Samplers and Weighers (51-9061) | $17.01 |

Women make up half of the population and the Hispanic population is projected to become the largest ethnic group in Orange County.[[9]](#footnote-9) To meet the workforce need and ensure equitable access to high-wage occupations in the region, community college biotechnology programs will need to expand outreach and recruitment to engage more people, especially those underrepresented in STEM occupations, such as Hispanics and women (Bensimon, etal., 2012; Crisp and Nora, 2012; Bayer Corp., 2011; Malcom, 2010).

In addition to producing enough biotechnicians to fill job openings, the industry needs biotechnology graduates with a high level of knowledge, skills and abilities (KSA) because of the high-stakes nature of the work: e.g., validate drug effectiveness, produce precision medical instruments, determine health results, confirm that food is safe, and so on. Students need to emerge from biotech educational programs with technical, academic and professional skills (e.g., teamwork, problem-solving, communication) that will enable them to perform effectively to industry standards, such as those delineated in the BioLink ATE Center’s report on bioscience core competences.[[10]](#footnote-10) Biotechnology programs must replicate as closely as possible actual work conditions to ensure that students master biotechnology core competencies.

1. **Description of the Program**
	1. Purpose

This certificate program is designed to prepare students for entry level jobs as laboratory assistants, biomanufacturing technicians, research and development technicians and in quality control biology and microbiology in fields such as biotechnology, medical devices, pharmaceuticals, biological, food safety, biomanufacturing and testing laboratories.

The certificate comprises a mix of courses that are a blend of skills-intensive biotechnology courses and UC/CSU transferable courses, some of which are required of biology majors. This blend will allow students who are job-oriented to acquire skills and theory-based knowledge needed to enter a growing and high-wage field but also take courses that can be applied to a science/biology degree should they decide to pursue more education.

The major goal of the Biotechnology certificate program is to provide students with information and skills which will provide employment and advancement opportunities in the biotechnology sector, which includes many industries from food processing to medical device manufacturing. The program goals include integrating existing courses and programs (e.g. biology and chemistry) with the biotechnology program to support the industry needs and provide students with multiple opportunities. They may initially choose only to complete the certificate to obtain good-wage employment but may later use the completed coursework in biology and chemistry to complete a pathway to transfer to a University in a STEM major. Similarly, a biology major may decide to take the biotechnology-specific skills courses in order to obtain employment in the field of interest while simultaneously pursuing their degree.

* 1. How program meets eligibility requirements, standards and commission policies
1. **Description of Planning Process**
	1. Relationship to planning, evaluation and mission

With the mission of the Biology department in mind to prepare students for certificates, careers or transfer to four-year institutions in such fields as biotechnology, we worked with the Deputy Sector Navigator and local industry to plan a certificate program that would result in students prepared to enter the work place as biotechnicians.

* 1. Assessment of needs and resources

During the planning of the course curriculum, SAC faculty assessed the equipment, reagents, facilities and faculty required for the proposed certificates. The Dean of Science, Math and Health Sciences identified a lab space with adjoining teaching space for the proposed classes and equipment. Because of the specific nature and high cost of the equipment needed to run such a program, SAC faculty have worked hard to acquire all the equipment to date from donations from industry or from funding acquired from the successful acquisition of grant funding. The biology department already had one full-time faculty member on staff with industry experience in this area. It was determined that one additional faculty member with industry experience in this field was required. An additional faculty request was made for this person and the district agreed and hired that person to start in the fall 2014 semester.

* 1. Anticipated effect/change on the college

We anticipate that this will help develop the college further as a leader in Career Technical Education programs. We will establish more relationships with local industry which will help our students obtain employment. In addition, we are currently working to set up articulation pathways with local high schools to help get more students into the exploration of STEM careers.

* 1. Intended benefits

Students who complete this certificate will obtain a certificate of achievement in biotechnology, will have obtained proficiency in basic and more advanced laboratory skills, and will have been exposed to various aspects of the industry through school-sponsored events and coursework. Additionally, this will obtain real-life experience through internship opportunities. The certificate meets the need on the emerging and growing biotechnology sector in Orange County.

* 1. Description of preparation and planning process (when did change go into effect)

SAC faculty has been working in close conjunction since 2006 with community college faculty all over Southern California to develop local regional Biotech programs. The Deputy Sector Navigator and Sector Navigator have been instrumental with support in this area. This support has included program knowledge, labor market data, industry contacts and professional development support.

Santa Ana College (SAC) and our collaborators met with a biotechnology advisory committee in June 2012 and January 2014 comprised of local area industry representatives and local area university representatives. This committee recommended developing a stackable certificate that would provide new students and incumbent workers with skills to enter and advance in this growing industry. Since that meeting, local area community colleges have worked together to research and plan for the implementation of such a certificate. The certificate will be comprised of courses intended to develop and ensure proficiency in specific lab-based skills as well as more traditional basic biology and chemistry courses.

SAC faculty researched program models on the Biolink[[11]](#footnote-11) website, and identified Salt Lake Community College’s (SLCC) STUDENTfacturED program as an intriguing option. STUDENTfacturED is an applied-learning model, and an NSF ATE-supported project, wherein students master biomanufacturing competencies by preparing products for high school and college biology and biotechnology programs. The faculty contacted Salt Lake Community College, and discussed their interest in the program. SLCC shared their Regulations and Compliance curriculum, which provides all of the instructional and practical elements of operating a student-manned biotech services ‘company’. In summer 2014, Dr. Ngan-Winward, from SLCC, came to Orange County to train the faculty on the curriculum. Piloting an adapted version of SLCC’s model at the partner colleges is key component of the proposed project.[[12]](#footnote-12)

1. **Evidence that institution has analyzed and provided adequate human, physical, technology and financial resources necessary to initiate, maintain and monitor change and assure activities undertaken are accomplished with acceptable quality:**
	1. Support services, including on-password protected electronic links ???
	2. Sufficient and qualified faculty and staff

This 39 unit certificate would require two full time faculty with biology, biotechnology and industry experience to teach the purposed classes. We currently have two full-time faculty on staff that meet those qualifications.

* 1. Professional development

The faculty have been participating in on-going professional development classes and workshops funded personally or through grant opportunities. Opportunities attended in the last year include training on Liquid Column Chromatography equipment, Biofuels production, Regulatory and Compliance Issue in Industry. We have attended seminars and workshops including the American Society of Microbiology Center for Undergraduate Education, BIOMAN (Biomanufacturing Conference), BioLinks (Biotech NSF ATE Center), and SoCalBio (Biotech and Biomedical Industry Group).

* 1. Equipment and facilities, including off-campus sites

The Dean of Science, Math and Health Sciences identified a lab space with adjoining teaching space for the proposed classes and equipment. Because of the specific nature and high cost of the equipment needed to run such a program, SAC faculty have worked hard to acquire all the equipment to date from donations from industry or from funding acquired from the successful acquisition of grant funding. Off campus sites will be in the form of industry or university internships. We have identifies two local universities and three local companies willing to provide internships for our students.

* 1. Sustainable fiscal resources, including initial and long-term amount

We have received several grants to purchase the equipment so far for the program including two Perkins grants and funding through the ENGAGE (NSF?) grant. We are currently in the process of applying for 3 new grants including a Careers Pathways Grant, an NSF ATE grant and a CTE Enhancement grant. Anyone of these would offset our initial start-up costs. Long-term costs would mostly involve the cost of consumable reagents which should be available through the Division budget.

* 1. Comparative analysis of budget, enrollment, resources; identify new or reallocated resources
	2. Plan for monitoring achievement of desired outcomes—program level outcomes

The program level outcomes for the biotechnology certificate program are based on the successful completion of the certificate. Students will be asked to complete and submit the paperwork for the certificate during their last class in the program. The Graduate Office will track the certificates awarded and we will submit that information to Launchboard.

* 1. Evaluation and assessment of student success, retention and completion

Student success will be monitored through certificate completion and internship evaluations by industry. Retention and completion rates will be monitored by tracking students who begin the introductory biotech and basic lab skills classes.

1. **Evidence that institution has received all necessary internal and external approvals**
	1. Statement of what faculty, admin, governing board, regulatory agencies approvals are needed and obtained. Will need department minutes, division curriculum committee minutes, C&I minutes; BOT letter of approval and BOT minutes of when approved. (Anh-Phuong)
	2. Legal requirements have been met
	3. Governing board action to approve change and any budget detail supporting change
2. **Eligibility Requirements have been met (all addressed, appropriate ones in detail)**

**CERTIFICATION OF CONTINUED INSTITUTIONAL COMPLIANCE WITH ELIGIBILITY REQUIREMENTS**

Santa Ana College continues to meet each of the 21 Eligibility Requirements for accreditation set forth by the Western Association of Schools and Colleges.

1. **Authority**

The authority for Santa Ana College (SAC) is the Board of Trustees. The Board derives its authority from California Education Code 70902 and from its status as the elected community entity which holds the institution in trust for the benefit of the public.

Santa Ana College is accredited by the Accrediting Commission for Community and Junior Colleges of the Western Association of Schools and Colleges.

1. **Mission**

The current educational mission of Santa Ana College (SAC) was revised and adopted by the Board of Trustees in November 2013. It is the responsibility of the participatory governance committees to review the mission statement on an annual basis and make recommendations for revision and updating to District Council.

The mission statement is included in the college catalog and class schedule, it appears on all college meeting agendas, and it is posted on the website and in many public locations. It appears in all publications deemed appropriate.

1. **Governing Board**

Elected by the voters from the seven trustee areas, the governing board of RSCCD consists of seven members who are responsible for the quality and integrity of the institution and who ensure the efficacy of the institution’s mission.

The Board exercises the right to be an independent policy-making body in accord with the California Education Code and reflects constituent and public interest in activities and decisions as reflected in the minutes of the regularly scheduled board meetings

The Board of Trustees has adopted Board Policy (BP) 9002 “Statement of Ethical Conduct” and annually reviews compliance with this policy to ensure that none of the RSCCD board members has employment, family, ownership or other personal financial interest in the district.

1. **Chief Executive Officer**

The Chief Executive Officer of Rancho Santiago Community District is the Chancellor, Raúl Rodríguez, Ph.D.; the Chancellor has served in this capacity since August 2010.

The Chief Executive Officer of SAC is Erlinda J. Martinez, Ed.D., appointed President of the college by the Chancellor of RSCCD and confirmed by the Board of Trustees in February 2005. She commenced her duties and responsibilities with SAC in March 2005. The President’s primary responsibilities to the institution are to ensure implementation of federal, state and local statutes and regulations as well as board policies; to efficiently manage fiscal and human resources; to provide effective leadership to define goals, develop plans and establish priorities for the college; and to ensure communication and cooperation among SAC constituencies.

1. **Administrative Capacity**

The training and experience required for each administrative position, as well as duties and responsibilities, are clearly set forth in recruitment publications. The administrative screening process ensures that Santa Ana College administrators have appropriate preparation and experience to provide the administrative services necessary to support the institution’s mission and purpose.

Since the last self evaluation in 2008, SAC has undergone several changes in upper administration, including the positions of Vice President of Academic Affairs, Vice President of Administrative Services and Vice President of the School of Continuing Education.

1. **Operational Status**

In fall 2014, Santa Ana College served 29,757 students: 18,491 full and part-time credit students and 11,266 full and part-time non-credit students. (Three hundred and twelve students were enrolled in both credit and non-credit courses.) Classes are offered in the day, evening and during weekend college in a wide variety of lengths from four weeks to a sixteen-week semester. Additionally, students were enrolled in fee-based community service classes. All courses offered on the SAC main campus, Centennial Education Center and adjunct community facilities are listed in the *Schedule of Classes* each semester but in a print version and an electronic version available on the college website. Community Services classes are published in a separate class schedule.

1. **Degrees**

The majority of Santa Ana College course offerings are in programs that lead to degrees, as described in the college catalog. There are over 250 concentrations, or majors, leading to the associate degree in arts or science; there are currently 22 Associate Degrees for Transfer (23 ADTs: 18 AA-T; 4 AS-T). The college catalog contains a listing of degrees offered, course credit requirements and unit length of study for each degree program. Descriptions and explanations of courses offered and degree requirements are also provided in the catalog. Course Outlines of Record are on file in the division offices and may be found on CurricUNET.

1. **Educational Programs**

Santa Ana College offers two-year general education, transfer, career and technical education programs in the credit mode as well as non-credit programs consistent with the RSCCD vision and the mission of California Community Colleges. All courses, degrees and certificates of completion fulfill California Title 5 Regulations, including those addressing collegiate-level quality and rigor. Completion of associate degree and general education requirements for the associate degree and articulation agreements with four-year institutions ensure that degree programs are of sufficient content and length and are conducted at levels of quality and rigor appropriate to degrees offered.

1. **Academic Credit**

Institutional policies and transfer requirements as well as the awarding of credit are clearly and accurately described in the SAC college catalog. SAC awards academic credits based on the Carnegie formula: one semester unit of credit is defined as one hour of recitation or lecture (together with the required two hours of preparation for each class hour) or three hours of laboratory work each week for a full semester.

1. **Student Learning and Achievement**

Santa Ana College conducts regular assessments of programs in academic and student services areas to support ongoing and systematic efforts to student learning and achievement. Quadrennial course review is overseen by the Curriculum and Instruction Council. In addition, annual *Department Planning Portfolio* development with quadrennial capstone program review of academic programs, and annual student services program review is embedded in the *Santa Ana College Educational Master Plan.* [*http://sac.edu/committees/IEA/Documents/Collection/SAC\_EMP.pdf*](http://sac.edu/committees/IEA/Documents/Collection/SAC_EMP.pdf)

<http://sac.edu/program_review/Pages/default.aspx>

Biology Department Program Review Pages: <http://sac.edu/Program_Review/ScienceMath/Bio/Pages/default.aspx>

All programs and services are working toward continuous improvement by linking identified student learning outcomes to the broader seven Institutional Learning Outcomes (i.e., formerly Core Competencies) of the College. Through program review processes, SLOs are revised as needed in academic programs. Direct SLO assessment is conducted in a course-embedded program assessment approach in conjunction with analysis of indirect data supplied by the Research Department. Changes made in the *SAC Strategic Plan* are then based on the program review work of departments and broad-based interdisciplinary dialogue. (Teaching Learning Committee (TLC) minutes [http://sac.edu/committees/TLC/Pages/default.aspx](http://sac.edu/committees/ProgramReview/Pages/default.aspx); [www.sac/Program\_Review/SitePages/Home.aspx](http://www.sac/Program_Review/SitePages/Home.aspx))

Specialized training on SLO writing and assessment is conducted through the TLC, the Center for Learning and Instruction (CLI), and through the work of department chairs with the Institutional Effectiveness and Assessment Coordinator. SLOs and student achievement inform the work of the Basic Skills Coordinator as well. Administrators, faculty and staff are working cooperatively on an ongoing basis to facilitate and assess student achievement.

The Institutional Effectiveness and Assessment Committee (IE&A), deleted from the participatory governance structure in spring 2014, was the oversight committee of the Strategic Plan. At this time College Council has the responsibility of the Strategic Plan update. The Teaching Learning Committee (TLC) remains the oversight committee of academic program review.

1. **General Education**

Santa Ana College’s general education philosophy and the seven college Institutional Learning Outcomes(formerly Core Competencies),which inform the comprehensive general education student learning outcomes, ensure that students acquire breadth of knowledge and intellectual inquiry.

Degree credit for general education is consistent with a level of quality and rigor appropriate to higher education, with general education courses spanning six general academic areas: Natural Sciences, Social and Behavioral Sciences, Humanities, Cultural Breadth, Communication and Analytical Thinking, and Lifelong Understanding and Self-Development. All of these academic areas, appropriate to higher education quality and rigor, have articulation agreements with the UC and CSU systems as well as various other private institutions of higher education throughout the US.

There are specific courses required for the major, with a minimum of 18 units for each degree. Students must complete these courses with a grade of C or better.

1. **Academic Freedom**

RSCCD Board Policy 4030 (formerly 4201) addresses and ensures that SAC maintains an atmosphere in which intellectual freedom and academic independence exist, and it ensures that the faculty and students at SAC are free to examine and test all knowledge appropriate to their disciplines as judged by the general academic community. The *Academic Freedom Policy* is in the college catalog and in the Faculty Handbook, both of which are on the college website.

1. **Faculty**

The institution has a substantial core of qualified and experienced full and adjunct faculty to support educational programs. All faculty meet the teaching and hiring requirements of Title 5.

The responsibility of faculty to develop and review curriculum and use adequate assessment is outlined in each job announcement. In addition, requirements for full-time faculty hiring include having a working knowledge of, and experience with, student learning outcomes and assessment.

 RSCCD currently has 355 full-time contract faculty and 1760 adjunct faculty in credit and

SCE programs; as of spring 2014, SAC has 217 full-time faculty and 1,307 adjunct faculty in both credit and SCE programs. There has been a net loss of four full-time faculty since 2002. New full-time faculty positions for fall 2014 will increase support and commitment to existing and new educational programs. In 2014, 29 faculty were hired at SAC to meet the educational needs of the students.

1. **Student Services**

Student Services provides services and programs consistent with student characteristics and institutional mission. Services and programs address the needs of a highly diversified student population characterized as ethnically diverse, educationally and economically disadvantaged, re-entry, and students with learning disabilities. Monitoring student characteristics and needs has been an ongoing activity. The Student Services Division engages in annual Program Review and maintains department portfolios which include research-based data as well as student learning outcomes analysis.

1. **Admissions**

Santa Ana College’s published admissions policies are consistent with the mission, appropriate for programs, and follow practices that are consistent with policies in specifying the qualifications for students appropriate for programs. Applications for admissions forms are routinely available through the Office of Admissions and Records, published in the schedule of classes and are available on the SAC website.

SAC has an open enrollment policy for high school graduates, those in possession of a California High School Proficiency Certificate, those 18 years of age and older who can profit from instruction, and high school students who qualify for the career advancement placement program.

1. **Information and Learning Resources**

Santa Ana College has a large library as well as the Media Services Department, Learning Center, Math Center, Academic Computing Center, Testing Center and several labs and centers utilized for specific programs. Library services include a large collection of books, periodicals and online journals and databases. Library staff offer bibliographic instruction and provide reference desk services to students in credit and non-credit programs, faculty and community members. The School of Continuing Education has the Community Learning Center, CEC Learning Skills Lab, CEC Main Computer Lab, CEC Small Lab and CEC Computer Skills Lab.

1. **Financial Resources**

The institution operates from a financially stable funding base, plans for financial development, and identifies and uses financial resources to support its mission and educational programs. Copies and information regarding the district and college budgets and funding base, as well as statements of assets, fund balances and accounting of the auxiliary foundation of the college are made available. Information regarding the student default rate is also made available in the Financial Aid Office.

1. **Financial Accountability**

 The institution can demonstrate financial accountability through the findings of an independent public agency secured by the Board of Trustees to perform regular audits. In all fiscal matters, the college adheres to specific board-approved policies and procedures governing responsible allocation of funds to support educational programs and services.

1. **Institutional Planning and Development**

The institution provides evidence of basic planning for the development of the institution through planning documents such as *The Strategic Plan*, Academic, Student Services, and Administrative Services Program Review, the *Department Planning Portfolios*, the *Technology Plan*, the *Facilities Master Plan* and budget committee goals, all included in the *Educational Master Plan*. These documents reflect the identification and integration of human and fiscal resources, as well as learning resources and facilities. Program Review is systematic and conducted on an ongoing basis by all departments.

1. **Public Information**

The college website, [www.sac.edu](http://www.sac.edu/) , contains information related to accreditation status, current and future students, academics, student services, faculty & staff, the Santa Ana College Foundation, and program review. A link to the District website, [www.rsccd.edu](http://www.rsccd.edu) , is also available. The college catalog, in both print and electronic versions, contains policies, procedures and practices relative to admission requirements; academic and career technical education programs; requirements and degrees; grievance procedures, fees, academic credentials of faculty and administrators; and other items relevant to student attendance and withdrawal.

**21. Relations with the Accrediting Commission**

The institution provides assurance that it complies fully with the eligibility requirements, accreditation standards and policies of the Commission, and it demonstrates honesty and integrity in representations to all constituencies and the public, and in relationships with the accreditation association and other external agencies. SAC further agrees to comply with all commission requests, directives, decisions and policies, including making complete, accurate and honest disclosures of its programs, staff and activities in its self study report.

1. **Evidence Accreditation Standards**

**Standard I: Institutional Mission and Effectiveness**

**I.A. Mission**

**Mission statement again?**

**I.B. Improving Institutional Effectiveness**

**??**

**Standard II: Student Learning Programs and Services**

**IIA. Instructional Programs**

**We currently offer a strong biology program with an A.S degree in Biology as well as an A.S. degree in Science. We would like to offer the Biotechnology Certificate program in addition to this as a way to focus on hard and soft skills desired by employers in local industry.**

**II.B. Student Support Services**

**SAC offers a wide range of support services including academic and personal counseling as well as counseling specifically in career technical education, careers and internships. We have a health center for students as well as child care facilities. We have financial aide advice available. SAC offers students a scholarship program as well as a Transfer Center. In addition, students have access to a Job Placement Center, an Office of Student Life and a Veterans Resource Center. The Disabled Students Programs & Services is also available to students.**

**II.C. Library and Learning Support**

**In regards to learning support, SAC offers students’ access to a Learning Center with class specific tutoring. We have a Library which offers workshops in library and research skills. There are Math and Chemistry Centers which offer tutoring assistance and a Biology Study Center with free access open resources for students. In addition there is a computer lab open and available to the students.**

**Standard III: Resources**

**III.A. Human Resources**

We currently have two full time faculty with biology, biotechnology and industry experience to teach the purposed classes. This should be suffice to meet the requirements of a 39 unit certificate.

**III.B. Physical Resources**

A lab space was identified for us by the Dean of Science, Math and Health Sciences with adjoining teaching space for the proposed classes and equipment. Because of the specific nature and high cost of the equipment needed to run such a program, SAC faculty have worked hard to acquire all the equipment to date from donations from industry or from funding acquired from the successful acquisition of grant funding.

**III.C. Technology Resources**

Technology resources to date have been provided in the form of donations. Former Salt Lake City College faculty have donated to us there blackboard shell for the online Quality and Regulatory Compliance in Bioscience course. In addition, we have been working with the software company ERG, who has written and donated a Lab Math software program to us for use in multiple courses.

In addition, we have been fortunate enough to participate in technical training on Liquid Column Chromatography, Biofuels production, Regulatory and Compliance Issue in Industry and Tissue Culture Techniques.

**III.D. Financial Resources**

We have received several grants to purchase the equipment so far for the program including two Perkins grants and funding through the ENGAGE (NSF?) grant. We are currently in the process of applying for 3 new grants including a Careers Pathways Grant, an NSF ATE grant and a CTE Enhancement grant. Anyone of these would offset our initial start-up costs. Long-term costs would mostly involve the cost of consumable reagents which should be available through the Division budget.

**Standard IV: Leadership and Governance**

**IV.A. Decision-Making Roles and Processes**

**?? – No clue**

**IV.B. Board and Administrative Organization**

* 1. All addressed; those particularly impacted in detail. Include process for monitoring and evaluating effectiveness and learning outcomes

**Don’t worry now!**

**and all Commission Policies will still be fulfilled specifically related to the change**

**CERTIFICATION OF CONTINUED INSTITUTIONAL COMPLIANCE WITH COMMISSION POLICIES**

**Policy on Distance Education and Correspondence Education**

Santa Ana College assesses its Distance Education (DE) courses for assurance of quality and accountability with a focus on achievement of student learning outcomes (SLOs). All instructors teaching a course through DE are required to attend training in online delivery and current DE methodologies offered through the distance Education Office. Evaluation processes are in place to ensure quality and effectiveness of online courses. All online courses are offered though the secure course management system, *Blackboard*. In accordance with the Higher Education Opportunities Act of 2008, Blackboard allows the college to verify the identity of a student who participates in an online class and who receives academic credit by way of a secure username and password issued by the RSCCD through *Datatel Colleague*. Since spring 2013, Santa Ana College has not offered Correspondence Education (CE) courses.

**Policy on Institutional Compliance with Title IV**

Santa Ana College is in compliance with Title IV. The College is audited each year, and the July 2013 audit by Vavrinek, Trine, Day & Co., LLP demonstrated no findings or recommendations for eth previous audit.

**Policy on Institutional Advertising, Student Recruitment, and Representation of Accrediting Status**

The PIO coordinates marketing and public relations materials. Documentation represents Santa Ana College appropriately and includes required information on the college’s current accreditation status by the Accrediting Commission for Community and Junior Colleges/Western Association of Schools and Colleges (ACCJC/WASC).

**Policy on Institutional Degrees and Credits**

Santa Ana College assures all programs are sufficient in content, breadth, and length through the Curriculum and Instruction Council approval process described in Standard II.A.2.a. A variety of programs of various lengths of study are offered to meet the needs of students pursuing educational goals at the college. Programs have published SLOs developed by the faculty within the program. Program-level SLOs are assessed as part of ongoing assessment processes at the college. All programs are reviewed and approved by the RSCCD Board of Trustees.

**Policy on Integrity and Ethics**

Santa Ana College ensures integrity in its practices and procedures that institutionalize a review process and incorporate a broad dialogue through the participatory governance structure, the Academic Senate, formal ongoing administrative meetings, and correspondence sent by the President and newsletters. Information provided to the ACCJC is reviewed for accuracy, and all reports are current and complete. All public information is written for students and the community and provides comprehensive information about Santa Ana College’s programs and services.

**Contractual Relationship with Non-Regionally Accredited Organizations**

Santa Ana College does not participate in any contractual relationship with non-regionally accredited organizations.

1. <http://rsccd.edu/Departments/Research/Documents/EnrollmentManagement/enrollmenttrendsfall2014.pdf> [↑](#footnote-ref-1)
2. <http://rsccd.edu/Departments/Research/Documents/EnrollmentManagement/enrollmenttrendsfall2014.pdf> [↑](#footnote-ref-2)
3. California Employment Development Department. (April 2013). *Biotechnology in California*. [↑](#footnote-ref-3)
4. *Supply and Demand Analysis: Life Science & Biotech Entry-Level Workforce in California*. (July 2014). Centers for Excellence for Labor Market Research. [↑](#footnote-ref-4)
5. *Supply and Demand Analysis: Life Science & Biotech Entry-Level Workforce in California*. (July 2014). [↑](#footnote-ref-5)
6. *2012-2013 Workforce Indicators Report*. (October 2013). Orange County Business Council. [↑](#footnote-ref-6)
7. Ibid. [↑](#footnote-ref-7)
8. Ibid. Table excerpted from the *Supply and Demand Analysis* report. [↑](#footnote-ref-8)
9. “by 2020, Latinos are projected to become Orange County’s largest ethnic group … Since 2005, Latinos have accounted for more than 50% of total births in the county” (*2013 Workforce Indicators Report*). [↑](#footnote-ref-9)
10. *Common Core Technical Skill Standards for the Bioscience Laboratory*. DRAFT. (May 13, 2013). BioLink. [↑](#footnote-ref-10)
11. Bio-Link is the Next Generation National Advanced Technological Education (ATE) Center of Excellence for Biotechnology and Life Sciences, a national ATE Center located in San Francisco, California. [↑](#footnote-ref-11)
12. For the partner colleges’ Biology 194: Quality & Regulatory Compliance in Bioscience course, the SLCC curriculum has been adopted with minor modifications. However, for the core biotech courses, Bio 191, 192, and 193 that feature the ‘mini-company’ model, the types of supplies manufactured are different from those produced in the SLCC model, and the curriculum will be adapted to reflect the standard operating procedures specific to the equipment and procedures used in our biotech programs. [↑](#footnote-ref-12)