Baccalaureate of Applied Science
Industrial Automation
new educational opportunities for Bakersfield College students
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Contributors

The following pages outline Bakersfield College’s plan for a Baccalaureate of Applied Science in Industrial Automation, as made possible by Senate Bill 850. Bakersfield College intends to apply to be one of the selected pilot locations for the new program. As the legislation stipulates that the four-year programs proposed by California community colleges may not duplicate any currently available programs at University of California or California State University campuses, the team below has worked diligently to conceptualize and develop a program proposal which will both abide the letter of the legislation, and provide a much-needed bachelor degree to the communities we serve.

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Introduction

Bakersfield College recently celebrated its 100th year of education, a history that began in 1913 when visionary members of the Board of Trustees of the Kern County High School risked the status quo to offer junior college classes at the high school. Now, in celebration of the start of our second centennial, we are asking the members of the Kern Community College District Board of Trustees to look to the future of community college education and embrace the concept of offering a community college baccalaureate degree. These two historic ideas, though 100 years apart, are very similar. In 1913 the purpose was “to enable pupils who had not planned to go away to college to get two extra years of schooling at home.” Today the purpose is to provide accessible, high-quality and relevant instruction that prepares our students for jobs to meet our changing industry standards in a number of educational and geographical areas where this education is not easily obtained. There are multiple reasons that we ask the Kern Community College District Board of Trustees to consider allowing Bakersfield College to offer the baccalaureate degree, but let’s focus on the two most compelling.

First, industry standards are changing in a number of fields. Where once the associate degree was the entry point (registered nursing, industrial technology, radiologic technology, health information science/informatics and automotive technology), this is no longer true. In many of these areas, the bachelor’s degree has become the minimal entry point. This change in industry eligibility standards represents an enormous climate change in workforce education, which we simply cannot ignore. Bakersfield College is known for meeting our local industry needs. To sustain this reputation, we must be able to address this major change in entry-level workforce requirements.

Second, for many of these fields, the bachelor’s degree doesn’t exist in our local public universities, or the institutions simply do not have the capacity to enroll and educate the numbers of students who need this entry-level education. For example, California State University, Bakersfield and its sister universities throughout California do not offer an Industrial Automation bachelor’s degree. Such a degree, so necessary to qualify for Kern County job openings, would support technical management, industrial safety, quality assurance and other industry positions requiring more than an associate degree or two-year certificate of achievement. Typically there are over 200 openings annually in Kern County’s oil, agriculture, manufacturing and logistics industries for these types of positions, with a median income of $85,000.
Baccalaureate of Applied Science in Industrial Automation

Statement of Need

In today’s industry, an engineering team is involved in developing new products or systems. This team is typically composed of engineers, technologists and technicians. Engineers apply their knowledge of mathematics and science to develop ways to economically utilize natural resources for the benefit of mankind through a wide spectrum of activities including the conception, design, development and formulation of new systems and products. Technologists are typically graduates of baccalaureate-level programs that emphasize the application of scientific and technical knowledge. They participate in activities surrounding applied design, manufacturing, product assurance, sales and project management. Technicians work with equipment, assembling, repairing and testing devices or systems based on technical skills rather than scientific knowledge used in the original design.

Within the last three years, California State University, Bakersfield has successfully offered an engineering program, primarily concentrating on Computer and Electrical Engineering. In addition, Bakersfield College offers Associate of Science degrees in a variety of technical fields which provide the training students need to become technicians. What is sorely missing in our region is the educational opportunity for students to obtain the type of baccalaureate degree that would prepare them for employment in industries that utilize technologists.

Bakersfield College is uniquely situated, possessing an academic infrastructure for technical education that includes exemplary facilities and current technologies. One of the strongest technical areas within the college is the electronics technology program, which prepares technicians in the areas of instrumentation, automation, process control and telecommunications. Providing a baccalaureate of applied science degree in Industrial Automation would fill the employment gap between the technician and engineer by preparing individuals to be employed in positions that require project management skills but not the extensive design skills of engineers.

The graphic below describes the relationship between our existing certificate and degree programs in electronics, the degree program for engineering technicians and our proposed baccalaureate degree. The common linchpin to all these programs is automation.

Figure 1 Relationship of Educational Pathways
According to the Automation Federation, “Automation involves a very broad range of technologies including robotics and expert systems, telemetry and communications, electro-optics, cyber security, process measurement and control, sensors, wireless applications, systems integration, test measurement, and many, many more.”

In 2009, the United States Senate Committee on Appropriations noted, “Supporting the nation’s manufacturers, especially small businesses, is critical to keeping America innovative in a global marketplace…The topic of automation cuts across all levels of industry, rather than serving as a stand-alone technology, and particularly affects the fields of control systems cyber security, industrial wireless sensors, systems interoperability, and other basic automation technologies necessary for the success of industrial enterprises…”

There are few programs across the country that are similar to the Industrial Automation BAS degree, and there are no programs within the Kern Community College District footprint. Many students do not wish to uproot their families and change their employment so that they can relocate to Fresno, San Luis Obispo, Los Angeles, or the San Francisco Bay Area to advance their education in technology-related fields. Job loss, relocation expenses and the additional cost of university classes often make the education challenge insurmountable for our students.

We anticipate the offering of an Industrial Automation degree will motivate students to complete the degree to qualify for a management or technical specialist position at a much higher salary potential than if they completed the coursework just for their practitioner or technician position. In addition, with our focused technical areas, including job skills certificates and certificates of achievement, students will be well prepared for entry-level technical employment they can maintain as they continue their education.

**Workforce Impact**

The lower Central Valley has a large base of production and logistics facilities in the following industry sectors: agricultural products processing, materials processing, manufacturing, aerospace, energy (petroleum, cogeneration, renewables), warehousing/logistics, and infrastructure/utilities. Each industry sector has a need for technical management, industrial safety, quality assurance, and other positions requiring more than an associate degree or two-year certificate of achievement.

EMSI data for occupations in Kern County potentially included in the proposed Baccalaureate degree include:

<table>
<thead>
<tr>
<th>SOC</th>
<th>Occupation</th>
<th>2014 Jobs</th>
<th>Median Hourly Earning*</th>
</tr>
</thead>
<tbody>
<tr>
<td>11</td>
<td>Operations Management</td>
<td>4,102</td>
<td>$52</td>
</tr>
<tr>
<td>17</td>
<td>Technician and Technologist-related</td>
<td>1,490</td>
<td>$33</td>
</tr>
<tr>
<td>41</td>
<td>Sales Engineers</td>
<td>94</td>
<td>$44</td>
</tr>
<tr>
<td>49</td>
<td>Industrial Electronics Maintenance</td>
<td>282</td>
<td>$30</td>
</tr>
<tr>
<td></td>
<td><strong>TOTAL</strong></td>
<td><strong>5,968</strong></td>
<td><strong>$46</strong></td>
</tr>
</tbody>
</table>

*Figure 2 Economic Workforce Analysis Example Local Need (EMSI Data* Weighted Average)*
According to EMSI, there is a roughly 20% projected growth in positions that the proposed Baccalaureate in Applied Science in Industrial Automation could support.

Legend

<table>
<thead>
<tr>
<th>Region</th>
<th>2009 Jobs</th>
<th>2013 Jobs</th>
<th>% Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kern</td>
<td>5,275</td>
<td>5,878</td>
<td>+11.4%</td>
</tr>
<tr>
<td>State</td>
<td>341,045</td>
<td>365,228</td>
<td>+7.1%</td>
</tr>
<tr>
<td>Nation</td>
<td>2,745,876</td>
<td>2,864,359</td>
<td>+4.3%</td>
</tr>
</tbody>
</table>

*Figure 3 Projected Growth of Industrial Automation related positions*
Integration into Current Department Plan

To develop the coursework for the Baccalaureate of Applied Science in Industrial Automation, the Engineering and Industrial Technology Department consulted with industry partners to identify learning outcomes for the program. These were mapped to the Institutional Learning Outcomes and eventually will be mapped to the Student Learning Outcomes of the courses to be developed.

<table>
<thead>
<tr>
<th>Institutional Learning Outcomes</th>
<th>Program Learning Outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Upon completion of a degree program at Bakersfield College, students will:</td>
<td>Upon completion of this program, a student will be able to:</td>
</tr>
<tr>
<td>• Think critically and evaluate sources and information for validity and usefulness.</td>
<td>• Apply critical and analytical thinking skills to industry-related problems related to safety, quality assurance, and design of systems.</td>
</tr>
<tr>
<td>Upon completion of a degree program at Bakersfield College, students will:</td>
<td>Upon completion of this program, a student will be able to:</td>
</tr>
<tr>
<td>• Communicate effectively in both written and oral forms.</td>
<td>• Display effective communication skills commonly used in industry, including presentation and writing skills.</td>
</tr>
<tr>
<td>Upon completion of a degree program at Bakersfield College, students will:</td>
<td>Upon completion of this program, a student will be able to:</td>
</tr>
<tr>
<td>• Demonstrate competency in a field of knowledge or with job-related skills.</td>
<td>• Demonstrate a broad understanding of the mathematical and scientific principles utilized in industrial automation and manufacturing.</td>
</tr>
<tr>
<td>• Engage productively in all levels of society—interpersonal, community, the state, the nation, and the world.</td>
<td>• Demonstrate competency in industrial automation and instrumentation, including relevant hardware and software utilized in industry.</td>
</tr>
</tbody>
</table>

Figure 4 ILO-PLO Mapping

To meet the outlined program learning outcomes for the Bachelor of Applied Science in Industrial Automation, the department crafted a proposed curriculum rich in advanced technical skills preparation and general education breadth to academically prepare students for employment in our local industries.

As seen in the following diagram, the lower division curriculum exists in the current academic structure of the college, except for the Industrial Safety course. The listed upper division major and general education courses will need to be developed.
### Existing Lower Division Curriculum

- Electricity/Electronics
- Visual Communications/CAD
- Industrial Graphics
- Mechanical Systems
- Programmable Logic Controllers
- Motors
- Lower Division GE, including physics, chemistry, math

### Proposed Upper Division Curriculum

- Distributed Control Systems
- Industrial Safety Management & Systems
- PLC Applications
- Programmable Automation Controllers
- Process Control
- Project Management & Budgeting
- Fluid Mechanics
- Systems Integration
- Quality Assurance
- Leadership Seminar
- Upper Division GE, including technical writing

*Figure 5 Curriculum Design Example Industrial Automation Curricular Scope*
A rough draft of the proposed curriculum development of new courses is listed below. Curriculum may be modified based on recently requested in-depth industry feedback and may be subject to further modifications once the RFP is released.

<table>
<thead>
<tr>
<th>Course Number</th>
<th>Course Name</th>
<th>Units (Lecture-Lab)</th>
<th>Lower/Upper Division</th>
</tr>
</thead>
<tbody>
<tr>
<td>INDT B20</td>
<td>Industrial Safety</td>
<td>3 lecture</td>
<td>Lower</td>
</tr>
<tr>
<td>INDA B110</td>
<td>Industrial Automation Networks</td>
<td>2-lecture/1-lab</td>
<td>Upper</td>
</tr>
<tr>
<td>INDA B112</td>
<td>Industrial Automation Systems</td>
<td>2-lecture/1-lab</td>
<td>Upper</td>
</tr>
<tr>
<td>INDA B114</td>
<td>Industrial Automation Measurement</td>
<td>2-lecture/1-lab</td>
<td>Upper</td>
</tr>
<tr>
<td>INDA B116</td>
<td>Industrial Motion Control</td>
<td>2-lecture/1-lab</td>
<td>Upper</td>
</tr>
<tr>
<td>INDR B100</td>
<td>Industrial Design Graphics</td>
<td>1.5-lecture/1.5-lab</td>
<td>Upper</td>
</tr>
<tr>
<td>INDA B120a</td>
<td>Petroleum Operations Seminar</td>
<td>1-lecture</td>
<td>Upper</td>
</tr>
<tr>
<td>INDA B120b</td>
<td>Materials Processing Seminar</td>
<td>1-lecture</td>
<td>Upper</td>
</tr>
<tr>
<td>INDA B120c</td>
<td>Food Processing Seminar</td>
<td>1-lecture</td>
<td>Upper</td>
</tr>
<tr>
<td>INDA B120d</td>
<td>Manufacturing Processes Seminar</td>
<td>1-lecture</td>
<td>Upper</td>
</tr>
<tr>
<td>INDA B130</td>
<td>Project Management and Budgeting</td>
<td>2.5-lecture/0.5-lab</td>
<td>Upper</td>
</tr>
<tr>
<td>INDA B132</td>
<td>Leadership and Entrepreneurship</td>
<td>2.5-lecture/0.5-lab</td>
<td>Upper</td>
</tr>
<tr>
<td>INDA B134</td>
<td>Quality Assurance</td>
<td>2.5-lecture/0.5-lab</td>
<td>Upper</td>
</tr>
<tr>
<td>INDA B135</td>
<td>Facilities Planning and Operations</td>
<td>2.5-lecture/0.5-lab</td>
<td>Upper</td>
</tr>
<tr>
<td>INDA B140</td>
<td>Systems Design and Integration</td>
<td>1-lecture/2-lab</td>
<td>Upper</td>
</tr>
<tr>
<td>INDA B141</td>
<td>Systems Implementation</td>
<td>1-lecture/2-lab</td>
<td>Upper</td>
</tr>
<tr>
<td>ENGL Bxxx</td>
<td>Technical Writing</td>
<td>3-lecture</td>
<td>Upper</td>
</tr>
<tr>
<td>GE</td>
<td>Arts &amp; Humanities course</td>
<td>3-lecture</td>
<td>Upper</td>
</tr>
<tr>
<td>GE</td>
<td>Social and Behavioral Science course</td>
<td>3-lecture</td>
<td>Upper</td>
</tr>
</tbody>
</table>

*Figure 6 Proposed Curriculum Development*

This represents 28.5 units of lecture in upper division major courses (1.9 FTEF), 11.5 units of lab (2.3 FTEF), and nine units of upper division General Education (0.6 FTEF). Over the course of two years of upper division work, it is estimated that two additional faculty will need to be hired to support this degree program. Of particular note is that faculty hired will need to possess at least a master’s degree. Of the three current electronics technology faculty, one has a master’s degree in Engineering. In addition, the faculty chair of the Engineering and Industrial Technology Department possesses a master’s degree in Engineering Technology.

The Engineering and Industrial Technology Department offers four job skills certificates, one certificate of achievement, and three Associate of Science degrees that prepare students for entry level technician positions related to automation. The diagram on the next page illustrates the relationship between the existing coursework that supports these certificates/degrees and the proposed baccalaureate degree.
Figure 7 Comprehensive Integration of Industrial Automation Related Programs
Listed below is a suggested educational plan for students based on an assumption of a required alignment to California State University General Education Breadth requirements.

**Year 1 Fall Semester**  
**15 Units**
- POLS B1 (GE D) 3
- Math B1a (GE B4) 4
- Phys B2a (GE B1/B3) 4
- ELET B1 (Basic Electronics) 4

**Year 1 Spring Semester**  
**16 Units**
- ENGL B1a (GE A2) 3
- Chem B2a (or B1a) 4
- History Course (GE D) 3
- ELET B5 (Programmable Logic Controllers) 3
- ELET B70 (Mechanical Systems) 3

**Year 2 Fall Semester**  
**16 Units**
- Biol B11 (GE B2) 4
- Humanities (GE C2) 3
- Critical Thinking (GE A3) 3
- ELET B55a (Electric Motors – Controls) 4
- INDR B12 (Intro to Drafting and CAD) 2

**Year 2 Spring Semester**  
**15 Units**
- ECON B1 or B2 (GE D) 3
- Comm B1 or B8 (GE A1) 3
- ELET B56 (Instrumentation and Process Control) 3
- ELET B4 (Computer Integrated Manufacturing) 3
- INDT B20 (Industrial Safety) 3

**Figure 8 BAS Industrial Automation Lower Division Coursework**

**Year 3 Fall Semester**  
**14 Units**
- Arts (GE C) 3
- INDA B110 (IA Networks) 3
- INDA B114 (IA Measurement) 3
- INDR B100 (Industrial Design Graphics) 3
- INDA B120a (Seminar) 1
- INDA B120b (Seminar) 1

**Year 3 Spring Semester**  
**14 Units**
- GE Upper Division Technical Writing Course 3
- Technical Elective 3
- INDA B112 (IA Systems) 3
- INDA B116 (Industrial Motion Control) 3
- INDA B120c (Seminar) 1
- INDA B120d (Seminar) 1

**Year 4 Fall Semester**  
**15 Units**
- GE Upper Division 3
- INDA B130 (Project Management and Budgeting) 3
- INDA B140 (Systems Design and Integration) 3
- Arts (GE C) 3
- Lifelong Learning (GE E) 3

**Year 4 Spring Semester**  
**15 Units**
- GE Upper Division 3
- INDA B132 (Leadership and Entrepreneurship) 3
- INDA B134 (Quality Assurance) 3
- INDA B135 (Facilities Planning and Operations) 3
- INDA B141 (Systems Implementation) 3

**Figure 9 BAS Industrial Automation Upper Division Coursework**

**Assessment**

Standard program review and Student Learning Outcomes/Program Learning Outcomes assessments will be followed. In addition, the initiative will allow us, through staff and curriculum development processes, to:

- Integrate applied projects, project-based learning, practical exams, and a competency model of assessment;
- Utilize a senior seminar series and senior systems project courses to assess skills gained in coursework across the department and interdisciplinary studies;
- Organize existing and new courses to follow the Automation Competency Model.
**Accreditation**

Standard accreditation processes will be followed. In addition, the following organizations and industry initiatives may be connected with the degree program:

- ATMAE* - Association of Technology, Management, and Applied Engineering ([www.atmae.org](http://www.atmae.org))
- Epsilon Pi Tau ([www.epsilonpitau.org](http://www.epsilonpitau.org))
- Automation Federation ([www.automationfederation.org](http://www.automationfederation.org))
- International Society for Automation ([www.isa.org](http://www.isa.org))

*ATMAE membership and accreditation is common among industrial programs throughout the country.

**Potential Course Locations, Load, Responsible Departments for Major Courses**

The college currently houses one Automated Production Lab in the Industrial Technology building, room 7; however, an additional lab would need to be added to support the upper division coursework. Currently, the MESA (Mathematics, Engineering, Science Achievement) program is located in the Science and Engineering building, room 46. MESA will be relocated to the Aera STEM Student Success Center once the center is completed. This will release SE-46 as a potential resource location for the additional Automated Production Lab. Listed below is a table describing potential resources required for the additional curriculum to support the BAS.

<table>
<thead>
<tr>
<th>Course Number</th>
<th>Course Name</th>
<th># Units</th>
<th>Lecture Hours</th>
<th>Lab Hours</th>
<th>FTEF</th>
<th>Potential Location</th>
<th>Department Responsible</th>
</tr>
</thead>
<tbody>
<tr>
<td>INDT B20</td>
<td>Industrial Safety</td>
<td>3</td>
<td>54</td>
<td>0</td>
<td>0.200</td>
<td>Existing Campus Classroom</td>
<td>EIT</td>
</tr>
<tr>
<td>INDA B110</td>
<td>Industrial Automation Networks</td>
<td>3</td>
<td>36</td>
<td>54</td>
<td>0.333</td>
<td>Automated Production Lab</td>
<td>EIT</td>
</tr>
<tr>
<td>INDA B112</td>
<td>Industrial Automation Systems</td>
<td>3</td>
<td>36</td>
<td>54</td>
<td>0.333</td>
<td>Automated Production Lab</td>
<td>EIT</td>
</tr>
<tr>
<td>INDA B114</td>
<td>Industrial Automation Measurement</td>
<td>3</td>
<td>36</td>
<td>54</td>
<td>0.333</td>
<td>Automated Production Lab</td>
<td>EIT</td>
</tr>
<tr>
<td>INDA B116</td>
<td>Industrial Motion Control</td>
<td>3</td>
<td>36</td>
<td>54</td>
<td>0.333</td>
<td>Automated Production Lab</td>
<td>EIT</td>
</tr>
<tr>
<td>INDR B100</td>
<td>Industrial Design Graphics</td>
<td>3</td>
<td>27</td>
<td>81</td>
<td>0.400</td>
<td>Existing Computer Lab</td>
<td>EIT</td>
</tr>
<tr>
<td>INDA B120a</td>
<td>Petroleum Operations Seminar</td>
<td>1</td>
<td>18</td>
<td>0</td>
<td>0.067</td>
<td>Existing Campus Classroom</td>
<td>EIT</td>
</tr>
<tr>
<td>INDA B120b</td>
<td>Materials Processing Seminar</td>
<td>1</td>
<td>18</td>
<td>0</td>
<td>0.067</td>
<td>Existing Campus Classroom</td>
<td>EIT</td>
</tr>
<tr>
<td>INDA B120c</td>
<td>Food Processing Seminar</td>
<td>1</td>
<td>18</td>
<td>0</td>
<td>0.067</td>
<td>Existing Campus Classroom</td>
<td>EIT</td>
</tr>
<tr>
<td>INDA B120d</td>
<td>Manufacturing Processes Seminar</td>
<td>1</td>
<td>18</td>
<td>0</td>
<td>0.067</td>
<td>Existing Campus Classroom</td>
<td>EIT</td>
</tr>
<tr>
<td>INDA B130</td>
<td>Project Management and Budgeting</td>
<td>3</td>
<td>45</td>
<td>27</td>
<td>0.267</td>
<td>Existing Computer Lab</td>
<td>EIT</td>
</tr>
<tr>
<td>INDA B132</td>
<td>Leadership and Entrepreneurship</td>
<td>3</td>
<td>45</td>
<td>27</td>
<td>0.267</td>
<td>Existing Computer Lab</td>
<td>EIT</td>
</tr>
<tr>
<td>INDA B134</td>
<td>Quality Assurance</td>
<td>3</td>
<td>45</td>
<td>27</td>
<td>0.267</td>
<td>Existing Computer Lab</td>
<td>EIT</td>
</tr>
</tbody>
</table>
**Student Application Process**

Students will be selected for the program by a committee chaired by the Director of Enrollment Services. The committee will consist of the Chair; the Dean of Science, Technology, Engineering, Mathematics and Industrial Technology (STEM-IT); and two faculty members from the department. Thirty freshmen and 30 juniors will be selected for each term beginning with fall 2016. Applicants will be required to submit official transcripts documenting successful completion of the required prerequisites along with completed application forms beginning in November 2015 and due by February 1, 2016. Successful applicants will be notified of their acceptance by May 1, 2016. This same calendar will be repeated each ensuing academic year.

**Industrial Automation Admission Pathway**

**Freshmen Admitted to the BAS Program with High School Requirements Met**
- Eligibility for college level courses in all subjects
- Completion of requirements for admission to CSU

**Lower Division BC Coursework**
- 60 units in Electronics, Drafting, Industrial Safety, Math, Science and Lower Division GE

**Juniors Admitted to the BAS Program**

**BC Students Not Admitted As Freshmen**
- 60 units in Electronics, Drafting, Industrial Safety, Math, Science and Lower Division GE

**Transfer Students From Other Institutions**
- Attained 60 or more transferrable units including Lower Division GE and courses equivalent to BC Courses

**Bachelor of Applied Science in Industrial Automation Earned**
- 60 units of Upper Division coursework including:
  - Networks, Systems, Measurement, Motion Control, Design Graphics; Petroleum Operations
  - Materials Processing; Food Processing; Quality Assurance; Manufacturing Processing
  - Leadership & Entrepreneurship; Project Management & Budgeting; Facilities Planning & Operations
  - Systems Design and Integration, Implementation
  - Upper Division GE

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*Figure 10 Potential Course Locations, Load, Responsible Departments for Major Courses*

*Figure 11 Industrial Automation Admission Pathway*
Appendices

Appendix A
Issues Addressed

The substantial research that has been done focuses on six areas of consideration: early study of potential candidates for a bachelor of applied science program, implementation timeline, accreditation, community support, library resources, and revenue implications.

Early study: Potential candidates for a Bachelor of Applied Science (BAS)

California’s Governor Jerry Brown signed into law in September 2014 SB 850 authored by former San Diego Community College District trustee Marty Block and co-authored by Southern San Joaquin Valley senator Andy Vidak. At its introduction to the state legislature, the Community College Baccalaureate Degree Pilot Program language provided for dozens of California Community Colleges to offer an applied baccalaureate degree to assist in providing, according to SB 850, “a high-quality undergraduate education at an affordable price” for students and to meet community employment needs. The applied baccalaureate is defined in the Community College Journal of Research and Practice as a “bachelor’s degree designed to incorporate applied associate courses and degrees once considered as terminal or nonbaccalaureate level while providing students with higher-order thinking skills and advanced technical knowledge and skills” (Townsend, Bragg, & Ruud, 2009).

Once SB 850 became known, colleagues at several community colleges, including Bakersfield College, considered offering an applied baccalaureate degree in nursing. The statewide nursing shortage remained a significant economic issue, especially in Kern Community College District’s service area. Demand for nurses with bachelor’s degrees was on the rise, and Bakersfield College wanted to respond to the need. As the bill was vetted through both houses and with constituency groups, however, the bill language was amended. The final version of the bill limited the pilot program to only one college in each of 15 selected community college districts. The scope of the degree was also amended so that the proposed degree could not unnecessarily duplicate a degree currently offered at any California State University or University of California campus.

The Bakersfield College baccalaureate programs listed below have the full support of the President, Academic Senate, College Council, and the Chancellor (see Appendices B-E). In addition, this support is demonstrated by the many faculty that have expressed interest in offering a bachelor’s degree in their respective areas. Cross-departmental committees completed significant and substantial work to support the baccalaureate initiative.

As the potential for community colleges offering a baccalaureate developed, the projects were categorized into three tiers.

- **Tier 1**: BAS in Nursing; BAS in Industrial Technology; BAS in Industrial Automation (significant analysis has been completed to consider these programs)
- **Tier 2**: BAS in Food and Beverage Management; BAS in Radiologic Technology
- **Tier 3**: BAS in Agriculture; BAS in Health Information Technology

Since several California State University campuses offer nursing baccalaureate degrees, Bakersfield College removed that program from consideration. Likewise, Bakersfield College ruled out its second choice, an applied baccalaureate degree in Industrial Technology, because this degree was also offered in the California State University system. What emerged, however, was a more focused degree—the Bachelor of Applied Science in Industrial Automation. The degree meets the requirements of the bill in that it is not offered by a California public university. The degree is offered, however, in Nevada and Oklahoma, so the curriculum structures of these programs were analyzed as Bakersfield College developed this plan.

Another SB 850 requirement is that the proposed degree address workforce needs in the college service area. The Industrial Automation baccalaureate would provide skill training, strengthen critical thinking, and prepare students for a broad employment skill set crossing over many industries critical to Kern County.

Based on the workforce needs of our region, the industries that we serve, and the level of readiness of the departments under consideration, Industrial Automation emerged as the first applied baccalaureate program being proposed by Bakersfield College.
**Implementation Timeline**

The following table shows major activities related to ramping up the BAS and operating it once it is approved by California Community Colleges Chancellor’s Office at least through the first year.

<table>
<thead>
<tr>
<th>Time Frame</th>
<th>Activity</th>
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<tbody>
<tr>
<td>November 12, 2014</td>
<td>Receive request for proposal from State Chancellor’s Office</td>
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<tr>
<td>December 19, 2014</td>
<td>Submit Bakersfield College’s BAS proposal to State Chancellor’s Office</td>
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<tr>
<td>January 21, 2015</td>
<td>SB 850 Pilot Project participants announced</td>
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<tr>
<td>January – August, 2015</td>
<td>Develop curriculum for additional lower and upper division courses</td>
</tr>
<tr>
<td>January-August, 2015</td>
<td>Create job descriptions and initiate hiring procedures</td>
</tr>
<tr>
<td>January-August, 2015</td>
<td>Develop for KCCD Board approval a baccalaureate admission policy</td>
</tr>
<tr>
<td>June, 2015 – August, 2016</td>
<td>Marketing/outreach, announce on campus, facilities remodel, etc.</td>
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</table>

**Figure 101 Implementation Timeline**

**Accreditation**

Appendix F contains extractions from the Accrediting Commission for Community and Junior Colleges (ACCJC) policy concerning Substantive Changes. Policy Section 3.1.2 of the ACCJC requires all changes in the degree level from that which was previously offered by the institution to be submitted to the ACCJC for approval. This process is in accordance with the Higher Education Opportunity Act (HEOA) regulations 34 C.F.R. subchapter 602.22.

The following sequential steps are required based upon Policy Section 4.0 of the ACCJC policy:

1. Establishing the need for Substantive Change
2. Preparing the Substantive Change Proposal
3. Following the required format and content of the Substantive Change Proposal
4. Including a concise description of the proposed change

The approval process for a substantive change could be 60 days or more. A guideline for completing the application is contained in Appendix G.

In addition, we are in contact with Bakersfield College’s ACCJC representative through our Accreditation Liaison Officer as we continue to explore the accreditation implications.

See Appendix H for other timeline milestones set by the State Chancellor’s Office.
Community Support
The proposed bachelor of applied science degree in Industrial Automation has already garnered strong support from external constituents. The Greater Bakersfield Chamber of Commerce Board of Directors has voted to support Bakersfield College’s bachelor of applied science degree. The Kern Economic Development Corporation has also offered a letter of support to accompany our application to the State Chancellor’s Office. California State University Bakersfield’s Dean of the School of Natural Sciences, Mathematics and Engineering has also offered support. We anticipate additional support letters coming from legislators as well as education and industry partners.

In the latter category, Blair Pruett, Kern Steel Fabrication, has committed to chair an industry advisory committee for the bachelor of applied science degree. The committee will offer expertise and advice in key programmatic areas related to current business trends and needs. Additionally, working with the Bakersfield College Foundation, the committee will spearhead fundraising efforts. Both in-kind and monetary donations are envisioned by Mr. Pruett.

Library Resources
The Grace Van Dyke Bird Library currently houses more than 89,000 books, provides access to more than 100,000 E-book titles and six online periodical and newspaper indexes (with access to more than 7,000 full-text periodicals), and subscribes to over 100 periodicals, many useful within the disciplines of science and technology. New resources—databases, technical reference books, and industry-specific periodicals—will be procured once identified by the Engineering and Industrial Technology Department to ensure that the proper materials are available to students as quickly as possible.

The library is staffed with knowledgeable tenured and adjunct librarians who will conduct orientations on the use of bachelor of applied science resources. Research Guides for new courses will be developed and made available on the library’s website.
**Fiscal Implications**

The projected net incremental direct cost of the proposed eight year pilot program is projected to be $2.5 million. This net cost is primarily driven by the initial startup capital outlay expenditures of $1.1 million and limited incremental new revenues to offer the program due to the Kern Community College District currently being at cap for apportionment. Bakersfield College plans to finance this cost through the use of college reserves. However, as noted in the analysis, there are potential other revenue sources that may become available to further offset this net cost during the course of the pilot program. A complete fiscal analysis of the projected direct revenues and operating and capital outlay expenditures for the pilot program is on pages 21 and 22 of this document.

Offering a bachelor of applied science degree in Industrial Automation will require a significant initial capital outlay of $1.1 million for lab renovations and startup equipment. Additional faculty will need to be hired, although this would span a three-year cycle, and there will be significant curricular development for discipline-specific and upper division general education courses. Supply budgets will need to increase and additional support staff will need to be hired. Accreditation will be much more rigorous, and the current Dean of Instruction over STEM-IT will carry a portion of the accreditation responsibilities, as well as responsibility for general management of the Industrial Automation program.

Projected additional FTES for the bachelor of applied science degree would be approximately 37 in year one and 73.7 per year in years two through eight, yielding revenue totaling $93,000 in year one and $186,000 per year in years two through eight. Due to the Kern Community College District currently exceeding its funded FTES cap, state apportionment is not available to fund these new FTES. The only incremental revenue available to offset the direct cost for the pilot program are the tuition fees (set at the California State University mandatory rate) and the additional $84 per-unit fee for upper division students, both of which were authorized in the legislation for this program.
### Summary Financial

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<td>Revenue</td>
<td>$93,240.00</td>
<td>$255,704.40</td>
<td>$321,022.80</td>
<td>$321,022.80</td>
<td>$321,098.40</td>
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<td>Capital Outlay</td>
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<td>($165,373.36)</td>
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<td>($33,657.08)</td>
<td>($33,657.08)</td>
<td>($33,657.08)</td>
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### Revenue Estimates

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<tr>
<td>Apportionment (currently at funding cap)</td>
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<tr>
<td>Additional $84/unit fee (juniors and seniors only)</td>
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<td>$255,704.40</td>
<td>$321,022.80</td>
<td>$321,022.80</td>
<td>$321,098.40</td>
<td>$321,098.40</td>
<td>$321,098.40</td>
<td>$321,098.40</td>
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<tr>
<td>Total Revenue</td>
<td>$93,240.00</td>
<td>$255,704.40</td>
<td>$321,022.80</td>
<td>$321,022.80</td>
<td>$321,098.40</td>
<td>$321,098.40</td>
<td>$321,098.40</td>
<td>$321,098.40</td>
<td>$321,098.40</td>
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**Note**—Potential Future Revenue Sources not Incorporated into Analysis:

1. CTE Pathways funding grants
2. Apportionment if Kern Community College District goes below funding cap
3. Private/Local contributions

### Facilities & Equipment:

#### Automated Production Lab - Renovate Existing Lab

- **Facilities Infrastructure** (Compressed air lines and jacks, single and three-phase AC power (significant loads), computer network access, open space for automated equipment, tables and workstations for controllers and computer equipment, seating and tables for student work and lecture, storage for supplies and non-fixed equipment)
  - 2015-2016: $386,400.00
- **Equipment** (Automated Production equipment, materials processing and testing equipment, additional trainers and equipment to meet curricular needs, options for facilities design and process implementation)
  - 2015-2016: $220,000.00

#### Additional Lab - Renovate Existing Lab to be Second Automation Lab

- **Facilities Infrastructure** (Reconfigure interior, additional electrical service to accommodate new equipment, provide additional work surfaces, cabinetry, and storage furniture, workstations including power, computer network access)
  - 2015-2016: $362,250.00
- **Equipment** (Upper-level robotics and automation)
  - 2015-2016: $120,000
### Instructional Technology (12 computers to operate additional trainers, teacher station with computer, projector, scanner, document camera)  
- **Instructional Technology (12 computers to operate additional trainers, teacher station with computer, projector, scanner, document camera)**  
  - **$21,000**

| Sub-Total | $1,109,650.00 |

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### Staffing Estimates

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<tr>
<td><strong>Industrial Technology Faculty (Two FTEF at $89,215 per year)</strong></td>
<td>$89,215.00</td>
<td>$89,215.00</td>
<td>$178,430.00</td>
<td>$178,430.00</td>
<td>$178,430.00</td>
<td>$178,430.00</td>
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<td><strong>Industrial Technology Faculty (adjunct at $63.44/hr)</strong></td>
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<td>$3,425.76</td>
<td>$3,425.76</td>
<td>$3,425.76</td>
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<td><strong>GE Load (adjunct at $63.44/hr)</strong></td>
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<td>$13,703.04</td>
<td>$13,703.04</td>
<td>$13,703.04</td>
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<td>$13,703.04</td>
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<tr>
<td><strong>Physics, Chemistry, Math Load (adjunct at $63.44/hr)</strong></td>
<td>$20,554.56</td>
<td>$27,406.08</td>
<td>$27,406.08</td>
<td>$27,406.08</td>
<td>$27,406.08</td>
<td>$27,406.08</td>
<td>$27,406.08</td>
<td>$27,406.08</td>
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<tr>
<td><strong>Advisor/Outreach (educational advising and recruitment)</strong></td>
<td>$73,697.00</td>
<td>$73,697.00</td>
<td>$73,697.00</td>
<td>$73,697.00</td>
<td>$73,697.00</td>
<td>$73,697.00</td>
<td>$73,697.00</td>
<td>$73,697.00</td>
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<tr>
<td><strong>Classified Support Staff (Department Assistant 50% commitment)</strong></td>
<td>$26,718.00</td>
<td>$26,718.00</td>
<td>$26,718.00</td>
<td>$26,718.00</td>
<td>$26,718.00</td>
<td>$26,718.00</td>
<td>$26,718.00</td>
<td>$26,718.00</td>
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<td><strong>Sub-Total</strong></td>
<td><strong>$210,184.56</strong></td>
<td><strong>$227,313.36</strong></td>
<td><strong>$323,379.88</strong></td>
<td><strong>$323,379.88</strong></td>
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<td><strong>$323,379.88</strong></td>
<td><strong>$323,379.88</strong></td>
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### Other Operating Expenses

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<tbody>
<tr>
<td><strong>Materials and Supplies (20% EIT department budget)</strong></td>
<td>$12,000.00</td>
<td>$12,000.00</td>
<td>$12,000.00</td>
<td>$12,000.00</td>
<td>$12,000.00</td>
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<td><strong>Maintenance (20% of current EIT department budget)</strong></td>
<td>$2,400.00</td>
<td>$2,400.00</td>
<td>$2,400.00</td>
<td>$2,400.00</td>
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<td><strong>Equipment Replacement</strong></td>
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<td><strong>New Faculty Cost (office furniture, computer technology, etc.)</strong></td>
<td>$2,400.00</td>
<td>$2,400.00</td>
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<td>$2,400.00</td>
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<td><strong>Curriculum Development</strong></td>
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<td>17 new IT courses @ 136 hours/course and $33.57/hr</td>
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<td>3 new upper division GE courses @ 105 hours/course and $33.57/hr</td>
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<td><strong>Sub-Total</strong></td>
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### Total Expenditures

- **2015-2016**: $1,432,422.95
- **2016-2017**: $258,613.36
- **2017-2018**: $354,679.88
- **2018-2019**: $354,679.88
- **2019-2020**: $354,679.88
- **2020-2021**: $354,679.88
- **2021-2022**: $354,679.88
- **2022-2023**: $354,679.88

**Figure 103 Fiscal Analysis**
Appendix B
Letter of Support from Bakersfield College’s President

Office of the President

January 29, 2014

Dear Chancellor Harris,

As Chancellor, you know about Bakersfield College. But I wonder if you really know about Bakersfield College. One year ago, I returned to Bakersfield College to become president, and since that time, my understanding of the work and innovation taking place has increased exponentially. This is why I’m writing to advocate for Bakersfield College as the most logical place for the pilot baccalaureate degree (SB 850 - Community College District Baccalaureate Degree Pilot Programs).

Here at Bakersfield College, we have a 100-year history of dedication to and innovation in education, and are recognized as having one of the best Associate Degree Nursing Programs. As you know, nursing is a program where successful students are virtually guaranteed a job – healthcare needs new nurses faster than we can train them.

If Bakersfield College were granted a pilot project for a bachelor's degree in nursing, we would not only be serving our current students, but also greatly enhancing our ability to meet the demands of the healthcare industry. As you may already know, bachelor degree prepared nurses are now the standard for entry level jobs in most areas of California, and the opportunity for Bakersfield College to address that need in the south San Joaquin Valley is now. With healthcare reform, healthcare industry leaders are seeking an edge to present themselves as exceptional by hiring only nurses with baccalaureate degrees.

Please let me know if I can be of assistance in moving this bill forward in any way, as I truly feel offering baccalaureate degrees at California’s community colleges, and Bakersfield College in particular, is important to the health of California’s healthcare system.

Thank you for your serious consideration.

Sincerely,

[Signature]

Dr. Sonya Christian
President, Bakersfield College
Appendix C
Resolution of Support from Bakersfield College’s Academic Senate

Resolution to Support Bakersfield College as Pilot Location for Community College Applied Baccalaureate Degrees

WHEREAS, the California Community Colleges Chancellor’s Office has appointed a 16-member panel to review the possibility of baccalaureate degrees at community colleges in California;

WHEREAS, only 14.9% of the population in Kern County has a baccalaureate degree compared to 30.5% in California;

WHEREAS, Bakersfield College has the drive and willingness to accept the challenge of offering a baccalaureate-level nursing program as well as other applied baccalaureate degrees in Kern County;

WHEREAS, Bakersfield College is committed to the process of seeking additional accreditation and the undertaking of a revision to current curriculum and organization;

WHEREAS, Title 5 recognizes that Academic Senates are given primacy over curriculum, degree and certificate requirements, and educational program development, all critical to decisions about baccalaureate programs;

NOW, THEREFORE BE IT RESOLVED, that the Bakersfield College Academic Senate supports Bakersfield College’s position as a pilot location for California Community Colleges Chancellor’s Office implementation of a baccalaureate degree program; and be it further

RESOLVED, that the position of the Bakersfield College Academic Senate, as expressed in this resolution, be transmitted to Chancellor Brice Harris and the California Community Colleges Chancellor’s Office.

February 28, 2014

Cornelio Rodriguez
President, Academic Senate
Appendix D
Resolution of Support from Bakersfield College’s College Council

College Council Resolution to Support Bakersfield College as Pilot Location for Community College Applied Baccalaureate Degrees

WHEREAS, the California Community Colleges Chancellor’s Office has appointed a 16-member panel to review the possibility of baccalaureate degrees at community colleges in California;

WHEREAS, only 14.9% of the population in Kern County has a baccalaureate degree compared to 30.3% in California;

WHEREAS, Bakersfield College has the drive and willingness to accept the challenge of offering a baccalaureate-level nursing program as well as other applied baccalaureate degrees in Kern County;

WHEREAS, Bakersfield College is committed to the process of seeking additional accreditation and the undertaking of a revision to current curriculum and organization;

WHEREAS, the College Council at Bakersfield College addresses collegewide issues through a collaborative, integrative approach, promotes greater communication that is accessible to the college campus at large, facilitates timely and effective decision-making efforts, is composed of representatives from all employee groups and student government, and serves as the key consultative body to the President on collegewide matters;

NOW, THEREFORE BE IT RESOLVED, that the College Council at Bakersfield College enthusiastically supports Bakersfield College’s position as a pilot location for California Community Colleges Chancellor's Office implementation of a baccalaureate degree program; and be it further

RESOLVED, that the position of the College Council at Bakersfield College, as expressed in this resolution, be transmitted to Chancellor Brice Harris and the California Community Colleges Chancellor’s Office.

03 March 2014

Dr. Sonya Christian,
President of Bakersfield College
August 22, 2014

The Honorable Jerry Brown
Governor, State of California
State Capitol, Suite 1173
Sacramento, CA 95813 -- VIA FAX

RE: SUPPORT: SB 850 (Block)

Dear Governor Brown:

I urge you to sign into law SB 850 (Block), the Community College Baccalaureate Pilot Program bill, when it comes to your desk in the near future.

SB 850 would allow 15 community colleges in 15 college districts to voluntarily participate in a pilot program to provide an applied baccalaureate degree in workforce training fields. The targeted fields are ones where employers now require baccalaureate degrees and in which public universities do not provide comprehensive access to these degrees. SB 850 strives to meet regional education needs of students and workforce needs of local economies. SB 850 degrees, by design, will not duplicate programs of the California State University, thus increasing opportunities for California students. This pilot program is especially beneficial to residents of the rural central valley where place-bound students often opt out of completing bachelor's degrees because degree programs are offered far from home.

Bakersfield College in the Kern Community College District is exploring potential SB 850 pilot bachelor's degree options that would offer multiple workforce applications throughout the southern San Joaquin Valley. Students who enroll in the potential SB 850 applied baccalaureate program at Bakersfield College could complete all courses to earn their bachelor’s degree without leaving the Bakersfield College campus.

The Kern Community College District Board of Trustees passed a resolution in support of the bill. The resolution noted that students in the central valley are less likely than others in California to complete a bachelor’s degree. SB 850 may prove to be an important avenue to help local residents extend their education. I encourage you to sign SB 850 legislation and support a mechanism for funding the legislation so that all our students may attain an education and become competitive in the state’s workforce.

Sincerely,

Sandra V. Serrano
Chancellor

Bakersfield College 1913 ~ Cerro Coso Community College 1973 ~ Porterville College 1927
Appendix F
Substantive Change Policy Extractions from Accrediting Commission of Community and Junior Colleges

Policy 3.0 (Extraction)

3 Changes the Commission Considers Substantive

Below is a list of conditions which require substantive change approval in order to comply with new Higher Education Opportunity Act (HEOA) regulations [34 C.F.R. § 602.22]. Illustrations (not exhaustive) and key institutional considerations for each condition are included; key considerations suggest points upon which the institution should focus the proposal. The proposal should address all of the required elements (as described in 4.2, Step Three, “Required Format and Content of the Substantive Change Proposal”). Conditions subject to prior substantive change review and approval by the Commission include:

3.1 Change in Mission, Objectives, Scope, or Name of the Institution

3.1.1 A Change in the Purpose or Character of the Institution

Example:
The institution changes its private or public character, including changes in the denominational character of a religiously-affiliated institution.

Key Considerations:

- The mission statement is fundamental to determining the institution’s programs and services, its governance and decision-making processes, and its planning. An institution undertaking a change in purpose or scope would likely revise its mission statement. The resulting statement should define the institution’s broad educational purposes, its intended student population, and its commitment to achieve student learning.
- The Commission may require a comprehensive review for a change in mission.

3.1.2 A Change in the Degree Level from that which was Previously Offered by the Institution

Example:
The college offers a program at a level different from the two-year associate degree, e.g., a third year and/or upper division of a program; a four-year baccalaureate degree.

Key Considerations:

- In particular, the proposal must present evidence of the institution’s ability to provide courses consistent in quality and rigor with the Eligibility Requirements, Accreditation Standards and Commission policies.

3.1.3 Any Change in the Official Name of the Institution

Example:
An institution replaces its name with the name of its district or system.

Changes the Commission Considers Substantial
4 Substantive Change Review and Approval Process

4.1 Eligibility for Proposal Submission

- An accredited institution is expected to complete this process sufficiently in advance of a substantive change to permit approval before the change is instituted.

- Institutions which have been declared eligible for accreditation but have not yet achieved candidate or accredited status may not initiate the substantive change approval process.

- Institutions scheduled for an external evaluation site visit may not initiate the substantive change approval process in the six-month period preceding the visit.

**Note:** Please see “Rationale for Requiring Approval of Substantive Changes” for proposal submission timing as it relates to a Commission accreditation sanction (page 2 of this Manual).

4.2 Sequential Steps in Preparing a Substantive Change Proposal

**Step One: Establish the Need for Substantive Change**

1. The first step in the process for a substantive change review is to formally communicate to the Commission’s substantive change staff (via email or U.S. Postal Service) a description of the proposed change, the need for the change, and the anticipated effects.

2. Early notification enables the staff to provide information and advice about the effect of the proposed change on the accredited status of the institution and to assist the college in preparing a complete proposal.

3. Staff will suggest to the institution areas of particular concern to the Committee on Substantive Change according to the type of change being proposed.

4. After reviewing the proposed change, Commission staff will determine whether or not it is indeed substantive.

5. If the proposed change is determined to be substantive, the institution will be required to complete a Substantive Change Proposal.

**Note:** When the proposal is determined to be a substantive change please refer to the ACCJC Fee Schedule that each college receives annually for the Substantive Change Fees.
**Step Two: Preparing the Substantive Change Proposal**

1. Once the college has established the need to prepare a Substantive Change Proposal, it should follow the “Required Format and Content of the Substantive Change Proposal.” Commission staff will assist the college by reviewing draft proposals for completeness and issues that may require further clarification or evidence.

2. When Commission staff has reviewed a draft proposal an invoice for the substantive change review fee will be sent to the college president’s office. Payment is due when the final proposal is submitted, 30 days in advance of the substantive Change Committee’s scheduled meeting.

3. The college submits the final proposal with a non-password required live link to an e-copy of the catalog and supporting evidence, including description and analysis.

4. The Substantive Change Proposal must be submitted electronically in Microsoft Word to Commission staff. (Evidence may be submitted in PDF format.)

5. One hard copy of the proposal, including evidence, must be submitted to Commission staff.

**Step Three: Required Format and Content of the Substantive Change Proposal**

**Cover Sheet**
The Cover Sheet must include “Substantive Change Proposal,” the title of the substantive change, the name and address of the institution, the date of submission, and the name and title of the individual responsible for preparing the proposal.

**Table of Contents**
The Table of Contents should include page numbers for the body of the proposal and supporting appended documentation of evidence.

**Step Four: The Substantive Change Proposal should include the following content where applicable:**

**A. A concise description of the proposed change and the reasons for it**

1. A clear and concise description of the change

2. Evidence of a clear relationship to the institution’s stated mission

3. Discussion of the rationale for the change including but not limited to labor market analysis
B. A description of the program to be offered if the substantive change involves a new educational program, or change in delivery mode

1. The educational purposes of the change are clear and appropriate

2. The proposed program meets Eligibility Requirements, Accreditation Standards and Commission policies related to student learning programs and services and resources

C. A description of the planning process which led to the request for the change, including:

1. The change’s relationship to the institution’s planning, evaluation and stated mission

2. The assessment of needs and resources which has taken place

3. The anticipated effect of the proposed change on the institution

4. A clear statement of the intended benefits that will result from the change

5. A description of the preparation and planning process for the change, i.e., when did the change go into effect

D. Evidence that the institution has analyzed and provided for adequate human, physical, technology and financial resources and processes necessary to initiate, maintain, and monitor the change and to assure that the activities undertaken are accomplished with acceptable quality, including:

1. Adequate and accessible student support services: enumerate services as detailed as possible; provide non-password required electronic links where available

2. Sufficient and qualified faculty, management, and support staffing

3. Professional development for faculty and staff to effect and sustain the change

4. Appropriate equipment and facilities, including adequate control over any off-campus site

5. Sustainable fiscal resources including the initial and long-term amount and sources of funding for the proposed change and an analysis of fiscal impact on the institution’s budget

6. A comparative analysis of the budget, enrollment and resources; identify new or reallocated funds

7. A plan for monitoring achievement of the desired outcomes of the proposed change

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8. Evaluation and assessment of student success, retention and completion

E. Evidence that the institution has received all necessary internal or external approvals, including:

1. A clear statement of what faculty, administrative, governing board, or regulatory agency approvals are needed, and evidence that they have been obtained

2. Legal requirements have been met

3. Governing board action to approve the change and any budget detail supporting the change

F. Evidence that each Eligibility Requirement will still be fulfilled specifically related to the change

1. All requirements should be addressed, and requirements that are particularly impacted by the change should be addressed in detail.

G. Evidence that each Accreditation Standard will still be fulfilled specifically related to the change and that all relevant Commission policies are addressed

1. All Accreditation Standards should be addressed and those that are particularly impacted by the change should be addressed in detail. There should be a description of the process for monitoring and evaluating the effectiveness and learning outcomes expected through the proposed change.

2. Depending on the nature of the proposed change, the Commission may ask for more detailed information to assist the staff and the Committee on Substantive Change in their review.

3. Failure to address Eligibility Requirements, Accreditation Standards and Commission policies could result in the proposal being considered incomplete or rejected and subject to an additional fee(s).

4.3 Committee on Substantive Change

4.3.1 Substantive Change Review Process

The Commission has authorized the Committee on Substantive Change to review proposals and take formal actions on substantive changes. The Committee on Substantive Change may act to:

- approve;
- defer;
- deny the change; or

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• refer the proposed change to the entire Commission for action at either the January or June Commission meeting.

The Committee may also request additional information about the change or visit the institution prior to taking any action. In addition, the Committee may require a resubmission or a Follow-Up Report on the substantive change.

When the Committee makes a determination regarding a substantive change, the Commission communicates the decision to the institution via a formal letter within 30 days of the decision and to the entire Commission at the next regular meeting.

If a substantive change is denied, the letter will include reasons for the denial. In the event that the change is judged to have the potential to affect the institution broadly, the review process may be expanded to include the institution as a whole.

4.3.2 Substantive Change Appeal Process

• If the institution wishes to appeal the decision of the Committee on Substantive Change, the appeal must be filed in writing and will be deliberated at the next meeting of the Commission.

• Members of the Committee on Substantive Change may participate in the discussion but will abstain from voting on the appeal.

4.3.3 Visits

• Under federal requirements of recognized accrediting agencies, the Commission must visit a new location within six months of the start of operations.

• The Commission must visit additional locations that offer 50% or more of a program to verify that the personnel, facilities, and resources claimed at the time of the Substantive Change Proposal are present.

• Institutions undergoing changes in ownership, control, and/or legal status are visited within six months of the implementation of the change.

• If the institution is not due for an external evaluation within two years of the approval of the substantive change, an on-site evaluation or other review may be required by the Commission.

• The Commission may also choose to visit additional locations, for example, when there is rapid growth in the number of such locations.

The visit will be conducted by one of the following: A member or members of the Commission staff; a member of the Commission staff and a member of the Committee on Substantive Change or other Commissioner, a member of Commission staff and a programmatic expert from a member institution. The size of the visiting team will be a function of the complexity and size of the site and proposed change. The staff member will serve as chair of the team. The visiting team will focus on the content of the original Substantive Change Proposal and any updated information

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requested by Commission staff prior to the visit, as well as any stated concerns of the Committee on Substantive Change.

A draft report of the substantive change visit will be presented to the institution for any corrections of fact. A final visit report will be submitted to the institution, filed with the institution’s ACCJC records and reported to the Commission at its next meeting.

**Note:** The Commission requires institutions to absorb the costs of a site visit.

### 4.3.4 Institutional Follow-Up

- The Commission may require institutions to submit Follow-Up Reports on specific issues precipitated by the substantive change. These reports make it possible for the Commission to assess the impact of the change once it has been implemented.

- Requirements for these reports will be specified in the action letter approving the substantive change. These reports may be followed by a visit of Commission representatives.

- While not ideal, should a substantive change review already be in progress in close proximity to the preparation of the Self Evaluation Report for Educational Quality and Institutional Effectiveness (Institutional Self Evaluation Report), the college should then include a description of the change and its status with the review (e.g., whether the Substantive Change Proposal is in draft form or under consideration by the Commission but not yet approved).

- Institutions should include updates of approved substantive changes in their next Institutional Self Evaluation and Midterm reports.
Appendix G
Guide for Preparing an ACCJC Baccalaureate Degree

The College’s Substantive Change Proposal must include the following elements, including evidence. (The new Accreditation Standards will also reference Baccalaureate degree criteria.)

A. A concise description of the change and request to add a baccalaureate program, including: (Liz and Jason)
   1. Evidence that the field of study for the degree is consistent with the institutional mission
   2. Rationale for change

B. A description of the new program to be offered; level and rigor of upper division courses commonly accepted as appropriate to the baccalaureate degree; program length; identification of delivery mode for the courses (Liz and Jason)

C. A description of the planning process which led to the request for the change (Anthony)

D. Evidence that the institution has analyzed, has the capacity, and has provided for adequate human, administrative, financial, and physical resources and processes necessary to initiate, maintain, and monitor the baccalaureate program and to assure that the activities undertaken are accomplished with acceptable quality (Anthony and Sonya)

E. Evidence that: (Michelle)
   1. The institution has received all necessary internal and/or external approvals
   2. Verification the institution is authorized by its state/government to offer the proposed baccalaureate degree
   3. There is sufficient demand for the program within the area served by the college (Liz and Jason)

F. Evidence that each Eligibility Requirement will still be fulfilled, specifically related to the change (Anthony)

G. Evidence that each Accreditation Standard will still be fulfilled specifically related to the change and that all relevant Commission policies are addressed (Anthony)

H. Evidence that the baccalaureate program meets the minimum requirements for the degree (120 semester units or equivalent) (Liz and Jason)

I. Evidence that the baccalaureate program meets the minimum baccalaureate level General Education requirements: (Liz and Jason)
   1. 36 semester units or equivalent
   2. Distributed across the major areas for General Education (arts/humanities, natural science, mathematics, social science, and oral/written communication
   3. Integrated throughout the curriculum (distributed to both lower and upper division courses)

J. Evidence that library and learning resources are sufficient in quality, currency, variety, quantity, and depth to support the baccalaureate program (Michelle)

K. Evidence that faculty qualifications are rigorous and appropriate in regard to: (Liz and Jason)
   1. Discipline expertise
   2. Level of assignment (at least one degree level above the baccalaureate degree for faculty assigned to baccalaureate degree courses or equivalent)
Appendix H
Pilot Program Tentative Timeline

California Community Colleges
Bachelor's Degree

Pilot Program
Timeline
DRAFT 10-16-2014

October 16, 2014  Application, process for external review and selection developed, reviewed by Consultation Council and submitted to BOG for discussion and input.

October 22, 2014  Email sent to all colleges requesting statement of Intent to Apply (not required for application, due November 12, 2014.)

November 17, 2014  Application and process reviewed by the BOG and modified in accordance with their input.

November 20, 2014  Request for Proposals (RFP) made available to all colleges that have submitted Intent to Apply documentation.

November 2014  External Review Team selected and scoring rubric developed.

December 19, 2014  Applications due to Office of the Chancellor.

January 6, 2015  External Review Team completes review and scoring of applications.

January 8, 2014  Chancellor determines Pilot Colleges to be recommended to the Board of Governors for consideration.

January 21, 2015  Board of Governors selects and announces Pilot Colleges.

January 2015  Pilot colleges hold first statewide meeting and discuss project.

March 16, 2015  Chancellor's Office develops and submits a funding model to support the statewide Baccalaureate for consideration by the BOG. (Funding model not necessary for identification and approval of pilot colleges.)

2017-2018  Deadline for Pilot Colleges to begin offering instruction; MIS Data Collection determined.

July 1, 2018  Legislative Analyst's Office (LAO) provides interim evaluation.