

Bakersfield College

Program Review – Annual Update

Attachments (place a checkmark beside the forms listed below that are attached):

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|---|--|--|
| <input type="checkbox"/> Faculty Request Form | <input type="checkbox"/> Classified Request Form | <input type="checkbox"/> Budget Change Request Form |
| <input type="checkbox"/> ISIT Form | <input type="checkbox"/> M & O Form | <input checked="" type="checkbox"/> Best Practices Form (Required) |
| <input type="checkbox"/> Other: _____ | | |

I. Program Information:

Program Name: **Architecture (Engineering and Industrial Technology Department)**

Program Type: Instructional Non-Instructional

Program Mission Statement:

The EIT faculty and staff strive to offer effective, up to date and student centered instruction, being sensitive to the diversity of our students, their educational needs, and their career goals. We provide relevant course and lab work geared toward day and night students seeking careers in EIT related fields, also meeting the needs of students seeking training for career advancement or skills updating. We use a multi-dimensional approach in preparing our students not only for their specific career goals, but also provide activities that assist them with meeting their personal, academic, and intellectual goals. Our faculty actively pursues professional development, program/facilities improvement, and college/community involvement, seeking partnerships and collective efforts.

Program Description: Describe how the program supports the mission of Bakersfield College:

The architecture program consists of two full time faculty members and two adjunct faculty members (who are professionals in their areas of expertise) which support KCCD/Bakersfield College's strategic initiatives providing education and training for immediate transition to the workforce and skill building with the latest software and 3D printing technology. In addition the program emphasizes an educational path to certificates, associate degrees and a transfer degree for students desiring a baccalaureate degree in architecture. Our instruction includes BIM modeling as well as 3D printing of architectural models for sophisticated design review and pre-construction clash detection. These skills and abilities enable our students to be most competitive in the emerging technologically advanced architectural/manufacturing marketplace.

The strategic goal of our program of achieving student success is met in the following areas:

Goal 1: Student Success – Become an exemplary model of student success by developing and implementing best practices

1.1 Evaluate and Improve matriculation process – Our students are given an orientation, counseling advice, and an educational plan is assembled in our Introduction to Architecture B1 course.

Goal 2: Communication - Enhance collaboration, consultation, and communication within the college and with external constituents.

2.3 Develop and sustain partnerships with area educational institutions, businesses and industry to enhance and respond to community needs – We continue to enhance our relationship with New School of Architecture and Design in San Diego through communications, multiple meetings at both campuses each year. In addition as a

direct result of our participating in Faculty and Advisor conferences each of our faculty members is awarded a 1,000 dollar scholarship to our top students who are accepted at New School. Our staff sits on the Advisory Committee that meets regularly with area architects, engineers and contractors. The purpose of the committee is to determine the effectiveness of our course work as it relates to each industry and how to better prepare our students for entry level placement in their industries.

Degrees and Certificates: List the degrees and/or Certificates of Achievement awarded by the program, if applicable.

Job Skills Certificate in Architectural Drafting

Associate of Science in Architecture

Associate of Arts in Architecture

II. Program Assessment:

- a. How did your outcomes assessment results inform your program planning?

We learned we need to be more visible to students entering as BC freshmen. Although students who complete our program are successful in finding employment we need to be more visible to the local high school students who are considering Bakersfield College as their place to further their education. We will be complementing our day instruction with an additional evening course to accommodate the needs of our community.

- b. How did your outcomes assessment results inform your resource requests this year?

Our program relies on current and emerging technologies and our only scanner has become too slow to meet the needs of our program. The emerging transition of hand sketches imported for conceptual modeling and further virtual analysis is increasing – the need for reliable computers, scanners and printers continue to be a constant need in our area.

- c. Note any significant changes in your program's strengths since last year.

Through the addition of 3D printing we are able to further study students' design concepts. Students are integrating the use technology in their everyday conceptual design, through the use of the laser cutter, CAD and BIM, students are developing and troubleshooting their design concepts at a much earlier stage giving them a lead in the challenging and changing field of architecture. Students are integrating their learning and newly acquired skills across the architectural curriculum.

- d. Note any significant changes in your program's weaknesses since last year.

One problem which has become very visible is the lack of room availability. We are having problems finding space to offer our classes. We share computer labs with the CAD program and are finding it difficult to offer the courses required for both programs to be successful due to lack of space. In addition, the Creative Design Center is the size of a large closet and has very limited space for growth. Our programs involve and are further integrating 3D printing and laser cutting technologies which give our students a lead in the marketplace. Our staff is willing to be trained to offer these skills for the advancement our students.

- e. If applicable, describe any unplanned events that impacted your program.

The acquisition of a new 3D printer was purchased for the use of the engineering/CAD students, but due to the openness of our staff, we are also utilizing it for architecture, which creates much enthusiasm from our staff and our architectural students. This recent technology allows models to print at greater detail and clarity.

III. Technology and Facilities Analysis

a. Has your program received new or repurposed technology in this cycle?

- i. If yes, how have you assessed the outcome of the use of that technology and its effectiveness as it relates to student outcomes?

The only new technology we received was the 3D printer. Although it was not specific for our program it will become a great tool for design evaluation since the 3D models generated by this printer can be printed with greater detail at much smaller scales. The new material allows for greater flexibility, together with the existing laser cutter this is going to create a source of great innovation and model evaluation. Our students are becoming more comfortable in utilizing these technologies.

- ii. If no, what technology could play a contributing factor in future student success and outcomes for your program? How would you evaluate the use of this technology?

The existing 3D printers are great, intended for manufacturing and engineering. As 3D printed more suited for architecture would involve 3D printing in color, allowing our students not only to evaluate the mass design and conflict resolution, but we would be able to better analyze the use of materials and colors in both an external and internal environment.

Sustainability is becoming a greater need as our generations continue to consume more resources in our planet, software and training in this field would be easy to integrate into our existing architecture courses and would offer students an enormous advantage over their competitive counterparts as well as prepare them to be critical thinkers and innovators in their future architectural designs.

- iii. How might other areas use this technology?

Last semester our students participated in a design for the improved SE Courtyard here on campus. The ability to see a virtual model of a proposed building or concept on a construction site gives all those involved the opportunity to make informed decisions before the project begins. This was done in the virtual model, now with the 3D printer the entire campus can be modeled and any proposed structures, buildings and courtyards can be modeled and evaluated prior to funding and these models can also be used as a source of obtaining funding, the visual impact of a 3D model gives a project life and viability.

(NOTE: Technology requests can be made by filling out the [ISIT Request form](#).)

b. Has your area received any facilities maintenance, repair or updating in this cycle? If yes, how has the outcome contributed to student success?

The Creative Design Center received some maintenance, a sink was relocated and a power strip was run along two walls. This gave us the opportunity to better use that small space and bring in two more pieces of equipment which run alongside the new 3D printer. The use of this room has already shown much interest on behalf of the students and staff.

(NOTE: Facilities and M&O requests can be submitted by completing the [M&O request form](#))

IV. Trend Data Analysis:

Discuss any significant changes in data trends over the last year using data provided by Institutional Research. Metrics may include the following:

- a. Changes in student demographics (gender, age and ethnicity)
Although we had a drop one year, for the past five years our number of female students has increased, going from 19% in 2008-09 to 27% in 2010-11. We continue to attract and encourage females into our program. We have improved our percentage of African-American students starting at 3% in 2008-09 to 7% in 2010-11 reflecting a stronger representation of minority students in our program.
- b. Changes in enrollment (headcount, sections, course enrollment and productivity)
The sections currently offered in architecture this year have increased by two due to the closing of these two same sections which were cancelled last year due to low-enrollment. In addition to this increase we are proposing an additional evening architecture course in Fall of 2014 that will increase our headcount by an additional 24 students. The addition of this course should stabilize our program and keep it from having low enrolled second year courses which have been cancelled in the past. Our current FTES/FTEF for architecture is 13.9 which is slightly lower than our college productivity rate at 17.9. However, our student retention rate is at 74.1% and our student success rate is at 88.1% both of these numbers being above the college success and retention rates.
- c. Success and retention for face-to-face, as well as online/distance courses.
Our success rate has dropped due to an increase in student expectations. We began holding our students to higher standards from data and information obtained from workshops and advisory committees, our students are transitioning from a traditional classroom environment to a more competitive and faster paced classroom/lab setting. As with any other change, it will take a few semesters to make the required adjustments and improve the student success rate.
Our retention rate has been steady; we tend to lose students to employers. We are dedicated to constant one on one teaching instruction and evaluation; students know we are available, kind and approachable.
- d. Degrees and certificates awarded (five-year trend data for each degree and/or certificate awarded)
The amount of associate's degrees varies every year, six being the steadiest number. The number of certificates offered has dropped, this probably due to lack of student involvement; we need to remind students who are eligible to fill out their paper work to obtain their earned certificates. The result of the two courses which were cancelled also impacted the number of certificates awarded last year.
- e. Other program-specific data (*please specify or attach*)

V. Progress on Program Goals:

List the program's goals from the previous Program Review. For each goal, please discuss progress and changes. If the program is addressing more than two (2) goals, please duplicate this section.

Previously Established Goal 1: (*state goal*)

Continue to coordinate with local industry through the work of advisory boards and other collaborative efforts. [Continued goal from last year. Changes in curriculum were either made or proposed in response to feedback by advisors. Evaluation of the change will take place over the next several years]

Progress on Goal:

Completed: __January 2012____ (Date)

Revised: _____ (Date)

Comments on Goal 1:

We continue to meet and listen to our professional counterparts working in the fields of architecture, drafting and engineering. This particular goal is never ending, we want to continue to listen to the needs of our employers, they are asking us that we continue to offer hand drafting exercises, that students understand basic computer managing procedures, that the skills necessary to enter the market place must also include lifelong learned responsibilities of being to work on time and being able to communicate orally and in written format.

This goal is a work in progress goal, we implement proposals every year, but continue to listen and make adjustments as they are offered to us by our committee members and professionals whom we communicate with to place our students. Each one of us is in communication with different firms in addition to the meetings we hold with our advisory boards.

Previously Established Goal 2: (state goal)

Continue to address gaps in core indicators. [This is continued from last year – especially in terms of non-traditional student (female) enrollment.]

Progress on Goal:

Completed: _____ (Date)

Revised: __Fall 2012____ (Date)

Comments on Goal 2:

Our goal to continue to attract non-traditional student continues and is met every year with improved numbers. When analyzing our data we realized that the African-American population was very under represented in our program. We have had staff meetings in an effort to accommodate and invite students of African-American background to succeed in our program. We are showcasing work done by our minority students in order to attract more diverse populations to our program.

VI. Curricular Review (Instructional Programs only):

- a. List each of the courses offered within the discipline's academic program in the first column, using one row per course. Place an **X** in the appropriate column to indicate when the course is scheduled for review.

Course	2013-2014 (2019-2020)	2014-2015 (2020-2021)	2015-2016 (2021-2022)	2016-2017 (2022-2023)	2017-2018 (2023-2024)	2018-2019 (2024-2025)
<u>ARCH B1 3/2011</u>	X		X		X	
<u>ARCH B6 6/2011</u>	X		X		X	
<u>ARCH B11 2/2011</u>	X		X		X	
<u>ARCH B12 3/2011</u>	X		X		X	
<u>ARCH B16 3/2011</u>	X		X		X	
<u>ARCH B21 5/2011</u>	X		X		X	
<u>ARCH B22 5/2011</u>	X		X		X	
<u>ARCH B30 6/2011</u>	X		X		X	

ARCH B31 (Deleted)						
ARCH B32 (Deleted)						
ARCH B33 9/2012		X		X		X
ARCH B55 3/2013			X		X	
ARCH B56 3/2013			X		X	

- b. **List** courses that are proposed for *addition*.
A new course will merge the currently offered Arch b55 and Arch b56. This course will be called Arch b57 and it will include the California Building Codes for both residential and commercial construction.
- c. **List** courses that are proposed for *deletion*.
As previously stated, Arch b55 and Arch b56 will go away being merged into the the Arch b57.
- d. **List** any changes the program has made to online/hybrid/distance education courses.
No changes at this time – program does not use online/hybrid/distance education.
- e. Provide an update on the program’s transition to adopting a [Transfer Model Curriculum](#) (AA-T or AS-T), if applicable.
Not Applicable – Program does not have a TMC.

VII. Conclusions and Findings:

Present any conclusions and findings about the program.

Our staff, although there are only two of us who are full-time are in constant communication regarding our courses, regarding students who may be struggling and those who are exceptional, regarding better schools for our transferring students and pretty much a conversation on all that relates to architecture and student success.

We will be making some changes in how we market our program, especially to our feeder high schools. We hear from our previous students how our program and classes have improved their family’s living standards and we hope to allow more students the opportunity to participate and be part of our program as well as be more accessible to the evening population which is not currently supported.

We will continue to be trained in innovative technologies and implement these to further enhance the educational experience our students obtain while enrolled at our beautiful Bakersfield College campus.