



FULLERTON COLLEGE ELEVATING. EXCELLENCE.

Instructional Programs **2014-2015 Self-Study** **Three-Year Program Review Template** **Construction Technology Program**

Technology and Engineering Division

Statement of Collaboration

The program faculty listed below collaborated in an open and forthright dialogue to prepare this Self Study. Statements included herein accurately reflect the conclusions and opinions by consensus of the program faculty involved in the self-study.

Participants in the self-study

Patrick A. McGrew, Construction Technology Department Coordinator, Associate Professor
David Thomas, Ed.D. Full Time Architecture Professor

Authorization

After the document is complete, it must be signed by the Principal Author, the Department Coordinator, and the Dean prior to submission to the Program Review Committee.

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1.0 Mission and Goals

The College's Mission, Vision, Core Values and Goals drive all college activities. The Program Review committee would like to understand the connection of your program to the College's Mission, Vision, Core Values and Goals. Summarize how your program supports each area.

Mission

To prepare students to be successful in the program and to demonstrate performance excellence in the construction trades. Teaching strong fundamental skills and making effective use of new materials and current technologies will accomplish this. It prepares students with the skills necessary for entry-level employment, advancement in employment positions, and personal growth in construction related fields. Students interested in transferring and obtaining a bachelor's degree will be provided with the necessary requirements to transfer to a California University in the disciplines associated with Construction.

Vision

The Construction Technology Program (Architecture, Carpentry, and Construction Technology) seeks to create a student body that promotes inquiry and intellectual curiosity about all aspects of Construction, personal growth and a life-long appreciation for the power of learning. To assist students in the continuation of construction related studies, to promote skills and knowledge pertaining to laws, standards, codes, materials, conventions, and technologies. Current, new and future trends in Construction Technology will be identified, promoted and implemented into the Construction Program with the assistance and guidance of the Construction Technology Advisory Committee.

Core Values

- We respect, promote and value the diversity of our entire community.
- We value and promote tradition and innovation.
- We support and encourage the involvement of all individuals, support staff and programs from the construction field in the decision-making process.
- We expect and encourage everyone to continue developing and learning in the construction trades.
- We promote and expect all students, staff, and administrators to display behavior in accordance with personal integrity and high ethical standards.
- We encourage, value and promote the well-being of our campus community.

Many of the core values that include respect, ethics, diversity, honesty, integrity and other personal attributes that are important in the Construction Trades are discussed during construction courses.

Goals and Objectives

The College Goals and Objectives are aligned with the Construction Program Goals and Objectives as described below.

Goal 1: The Construction Program will promote student success.

Objective 1: Address the unique needs of students who have not been exposed or who are underprepared in the construction related fields.

Objective 2: Increase course retention and success.

Objective 3: Increase the number of degrees and certificates awarded.

Objective 4: Increase the number of transfers.

Goal 2: The Construction Program will reduce the achievement gap.

Objective 1: Address the needs of English language learners.

Objective 2: Address the needs of students identified as needing special accommodations to meet their learning needs.

Goal 3: The Construction Program will strengthen connections with the community.

Objective 1: Strengthen our contacts with Alumni Construction Graduates.

Objective 2: Strengthen partnerships with local feeder high schools, ROP, and universities.

Objective 3: Strengthen partnerships with local business and industry.

Objective 4: Increase funding for the construction program.

Objective 5: Increase engagement of the college with the community through college events, community service, and other partnerships.

Statement of Ethics

As representatives of Fullerton College, we all share the responsibility to conduct ourselves with integrity, and to act in a fair, consistent, and equitable manner. We recognize the need for openness and reliability in what we say and do. We are committed to addressing issues in a forthright and professional manner, and to engaging people without prejudice. As members of an educational community, we are committed to excellence in all that we do, and to adhering to the principles of ethical behavior established in this statement.

The conduct of each member of Fullerton College is expected to be consistent with and to comply with the principles contained in this statement. All members of the campus community are expected to engage in the following:

Trustworthy conduct — including dependability, loyalty, and honesty in communications and actions.

Respectful behavior — treating everyone with civility, courtesy, tolerance, and acceptance, and recognizing the worth, dignity and unique characteristics of each individual.

Accountability — taking personal responsibility for one's own actions and decisions.

Fair and just actions — utilizing equitable processes in decision making.

Compassion — caring for others, both within and apart from the campus community, and providing services to others in a manner that reflects our commitment to them and to their well being.

2.0 Program Data & Trends Analysis

2.1 Key Performance Indicators (KPI)

For each KPI listed below, analyze and report your findings and describe what they mean.

(Attach 5-year longitudinal data from Office of Institutional Research and Planning (OIRP) to Appendix.)

KPI	Findings
Enrollment	2010 - 1,426 - ARCH, CSTR, WOOD all fully operational. 2011 - 1,297 - Enrollment with the now closed woodworking program 2012 - 962 - Off campus site for two years 2013 - 882 - Last year of off site 2014 - 1,184 - 34% increase in enrollment from previous year and on the rebound to previous enrollment of counts. 2010 and 2011 included the woodworking programs additional 12 sections.
Total FTES	2010 - 209 After a steady decline in FTES, with all 3 programs included 2011 - 194 strong promoting of the program with outside agencies, and 2012 - 120 after plummeting to 119 during the two years off 2013 - 119 campus, the FTES is back up to 149 with increased 2014 - 149 enrollments and the increase in courses offered.
Sections	2010 - 76 2011 - 74 With a 22.6% increase from 2013 to 2014 of number 2012 - 57 of sections offered , a 34% increase in enrollment. 2013 - 53 Definitely a move in a positive direction for the 2014 - 65 Construction Program.
FTEF	2010 - 15.1 2011 - 15.2 FTEF has dropped by approximately 1 point each year. 2012 - 14.3 FTEF because we lost the Woodworking Instructor 2013 - 13.4 and closure of the Woodworking Program

	2014 – 12.4
Fill Rate	2010 - 109% 2011 – 101% 2012 - 97% 2013 – 96% 2014 – 101% <p>Fill rates are steady at nearly 100% and above, due to courses we are offering and the expertise we bring as a collective staff.</p> <p>The number of adjunct faculty varies by 2-3 per semester. Currently we have 2 FT and 13 PT Instructors</p>
WSCH/FTEF	2010- 413 2011 – 384 2012- 254 2013 – 291 2014 – 415 <p>With all courses in tact the WSCH/FTEF dropped significantly after losing the Woodworking Program and relocating to La Habra in 2012 and 2013. A strong increase back up to 415 after back on campus In 2011 and 2014 we Were overfilling classes and were unable to overfill while off Campus at La Habra which explains 2011 and 2014 in Comparison to 2012 and 2013.</p>
	2010 – 85% 2011 – 84% 2012- 85% 2013 –85% 2014 –83% <p>Student retention, despite the temporary relocation of campus has maintained in the mid 80 percentile. I believe this is due to the expertise and quality of instruction.</p> <p>Collectively we work with students to strive to complete all courses they have enrolled in. I also believe that this retention rate is much higher than most academic programs</p>
Success	2010 - 72% 2011 – 72% 2012- 71% 2013 –68% 2014 –70% <p>Although success rates are in the low 70 percentile range, I believe a closer look at rosters towards the end of the semester to clear non attending students will bring this percentage up along with continuing efforts to assist students towards successful completion of course work.</p>

Although the tracking of degrees, certificates and transfer students as stated below in the California Community Colleges Chancellor's Office, Welcome, Mission and Vision statements are important, additionally providing workforce training and lifelong learning for all citizens to create a skilled progressive workforce is equally as important. Unfortunately though, there is no system in place currently to track these students as many of them come and go on an as needed basis for self-improvement, job advancement as well as training to change jobs and careers.

In addition to the Certificates appearing in the KPI Data listed, additional certificates in Construction Estimating were awarded to students entering the workforce without degrees.

The following welcome, mission and vision statements are taken directly from the California Community Colleges Chancellor's Office Website as reinforcement as to our mission and vision as a California Community College.

Welcome to the California Community Colleges Chancellor's Office

The California Community Colleges is the largest system of higher education in the nation, with 2.1 million students attending 112 colleges. **Our colleges provide students with the knowledge and background necessary to compete in today's economy.** With a **wide range of educational offerings, the colleges provide workforce training**, basic courses in English and math, **certificate and degree programs and preparation for transfer to four-year institutions.**

Our Mission

The mission of the California Community Colleges Board of Governors and the Chancellor's Office is to empower the community colleges through leadership, advocacy and support.

Vision Statement

The California Community Colleges Board of Governors and the chancellor share a vision of a better future for Californians by exemplifying exceptional leadership, advocacy and support on behalf of the community colleges. Their guidance provides access to **lifelong learning for all citizens and creates a skilled, progressive workforce to advance the state's interests.**

2.2 Peer Institution Comparison

Complete the table below.

College/Program: YEAR	FULLERTON	BAKERSFIELD	FRESNO	SAN DIEGO MESA	
Retention: 2010	85%				
2011	84%	90.30%	93.10%	83.71%	
2012	85%	88.16%	97.18%	87.10%	
2013	85%	82.59%	95.08%	85.38%	
2014	84%				
Retention has remained constant in the mid 80 percentile.					
Success2010	72%				
2011	72%	71.82%	73.56%	72.58%	
2012	71%	78.29%	80.28%	77.88%	
2013	68%	65.99%	63.93%	73.35%	
2014	70%				

Success has also remained constant in the low 70 percentile. Feedback from students indicates Fullerton Construction students are held more accountable for their school work/performance.					
Degrees Awarded:2010	17				
2011	14				
2012	16	6	2	20	
2013	14	11	2	16	
2014	9	10	7	25	
Fullerton holds strong in the number of degrees awarded. Expected drop in degrees immediately after returning to campus after the relocation and loss of students due to being relocated.					
Certificates Awarded: 2010	9				
2011	15				
2012	8	0	0	11	
2013	7	1	0	8	
2014	5	3	2	14	
In addition to the Certificates appearing in the KPI Data listed above, additional certificates in Construction Estimating were awarded to students entering the workforce without degrees.					
Transfers: 2010					
2011	93	244	66	485	
2012	79	205	39	378	
2013	173	163	44	362	
2014					

How does your program compare with peer institutions? Provide a narrative of your comparison. (Peer institutions are colleges or programs identified by the Office of Institutional Research and Planning (OIRP)).

The Fullerton College Construction Program has a strong retention rate in the mid 80 percentile. This is comparable to SD Mesa College, which has approximately the same retention rates. Bakersfield and Fresno are much smaller geographic and metropolitan areas and their programs are much smaller with smaller student populations. We believe our retention rates are strong and viable due to the quality and expertise of instruction that is offered at Fullerton and the diversity in courses offered.

We as a staff, collectively encourage students throughout the semester to not only succeed but to be the best at what they have to offer. Although our success rate is in the low 70's, We believe we hold our students to a higher standard and expect quality of work and not to just pass students on. Students are held accountable for their work/performance.

The number of Degrees and Certificates awarded is strong and I believe will continue to increase as we include new courses and offerings of curriculum related to the Construction Industry. Awarding of degrees and certificates are up due to the reinforcement of the importance of education, which is stressed to all students and the efforts in and out of class to assist students to become highly successful. In addition to the noted degrees and certificates awarded, Fullerton additionally awarded 11 Certificates in Construction Estimating for completing 17 units of required work within the discipline. Unfortunately, there is no tracking procedure in place to illustrate just how many students attend Fullerton College Construction Technology courses to gain employment, for advancement in current and future jobs without pursuing a certificate or degree. We believe that our numbers of awards issued is respectable with the comparable colleges.

In researching the listed (HSI) Hispanic Serving Institutions (Title V Compliance) on the Fullerton College Peer Institutions from National Center for Educational Statistics sheet, out of 36 institutions listed, only 3 had both, an architecture program and a carpentry or construction program. The following institutions were selected: Bakersfield College, Fresno City College, and San Diego Mesa College.

The following table illustrates the comparability of programs of the selected institutions. Note that each program is uniquely diversified in the number of courses, degrees and certificates offered.

Peer Institutions
Comparable Table of Courses and Degrees
Number of Courses, Degrees and Certificates Offered

Institution	Architecture Course(s)	Carpentry/ Construction Course(s)	Architecture		Carpentry		Construction	
			Degree	Certificates	Degree	Certificates	Degree	Certificates
Fullerton	10	31	1 - AS		1 - AA		3 - AS	1 <18 2 >18
Bakersfield	11	4	1 - AA 1 - AS	1 <18	1 - AS		1 - AS	1 <18
Fresno	16	13	1 - AS	1 <18			1 - AS	1 <18
SD Mesa	34	10	6 - AS	5 <18 6 >18			1 - AS	1 > 18

Results:

As noted in the table above, no two programs are even close to being the same. While Fullerton College has 10 Architecture courses and 31 Construction courses, SD Mesa has

conversely 34 Architecture and 10 Construction courses. Bakersfield and Fresno College while Bakersfield and Fresno have 11 and 16 Architecture courses and 4 and 13 Construction courses. Utilizing the data mart chart attached, enrollment at these colleges has remained fairly constant with the exception of Fullerton going from 262 and 263 in 2011 and 2012 to 440 in 2013 the first year back on campus after two years of relocation to La Habra. Fullerton's Construction Technology Program is definitely in demand with the recent regrowth in jobs in the construction sector and the word spreading of the quality and diversity in courses offered.

2.3 Achievement Gap

Indicate achievement gap for each of the groups listed below. (Attach to Appendix the Success and Retention by Ethnicity Data as identified by the Office of Institutional Research and Planning.)

Group	% Retention	% Success
Males	AN0910 86%	AN0910 70%
	AN1011 87%	AN1011 73%
	AN1112 83%	AN1112 68%
	AN1213 85%	AN1213 69%
	AN1314 84%	AN1314 71%
Females	AN0910 88%	AN0910 76%
	AN1011 86%	AN1011 73%
	AN1112 91%	AN1112 78%
	AN1213 84%	AN1213 68%
	AN1314 81%	AN1314 70%
Asian-American	AN0910 85%	AN0910 72%
	AN1011 89%	AN1011 82%
	AN1112 92%	AN1112 87%
	AN1213 85%	AN1213 75%
	AN1314 85%	AN1314 80%
African-American	AN0910 89%	AN0910 67%
	AN1011 88%	AN1011 68%
	AN1112 75%	AN1112 45%
	AN1213 85%	AN1213 54%
	AN1314 76%	AN1314 51%
Filipino	AN0910 91%	AN0910 79%
	AN1011 83%	AN1011 70%
	AN1112 83%	AN1112 74%
	AN1213 73%	AN1213 60%
	AN1314 93%	AN1314 83%
Hispanic	AN0910 87%	AN0910 68%
	AN1011 88%	AN1011 73%
	AN1112 89%	AN1112 70%
	AN1213 84%	AN1213 65%
	AN1314 81%	AN1314 66%
Native American	AN0910 71%	AN0910 71%
	AN1011 100%	AN1011 83%

	AN1112 87%	AN1112 67%
	AN1213 100%	AN1213 100%
	AN1314 100%	AN1314 33%
Other Non-White	AN0910 67%	AN0910 33%
	AN1011 100%	AN1011 100%
	AN1112 100%	AN1112 100%
	AN1213 100%	AN1213 100%
	AN1314 0%	AN1314 0%
Pacific Islander	AN0910 90%	AN0910 90%
	AN1011 67%	AN1011 33%
	AN1112 67%	AN1112 67%
	AN1213 86%	AN1213 86%
	AN1314 67%	AN1314 33%
White	AN0910 86%	AN0910 74%
	AN1011 85%	AN1011 71%
	AN1112 80%	AN1112 69%
	AN1213 87%	AN1213 71%
	AN1314 89%	AN1314 79%
Unknown	AN0910 90%	AN0910 75%
	AN1011 88%	AN1011 74%
	AN1112 68%	AN1112 44%
	AN1213 81%	AN1213 75%
	AN1314 61%	AN1314 47%
Range (Max-Min)	100-61	100-33

2.4 Program Effectiveness

Since your previous Program Review Self-Study, what significant changes have occurred that impact the effectiveness of your program? (-) Negative to program (+) Positive to program

Significant changes/Impacts to the Construction Program which contribute to the effectiveness of the program include:

- Annual recognition by the American Subcontractor's Association at their Annual Awards Banquet and monetary contribution to the Construction Program. For the past two years the donation has been \$5,000.00 annually. (+)
- Slow Economy (students are unable to pay for tuition and those that are able to enroll have difficulty purchasing required tools for classes) hardship (-) to enrollment and success
- New monies have been offered by the Fullerton College Foundation in Scholarships Several Construction Student Recipients (+)
- Relocation of construction program to off campus facility during modernization of current facility resulted in a decline in enrollment. (-)
- Courses were split between the campus and off-site campus making it difficult for students to access multiple classes. (-)

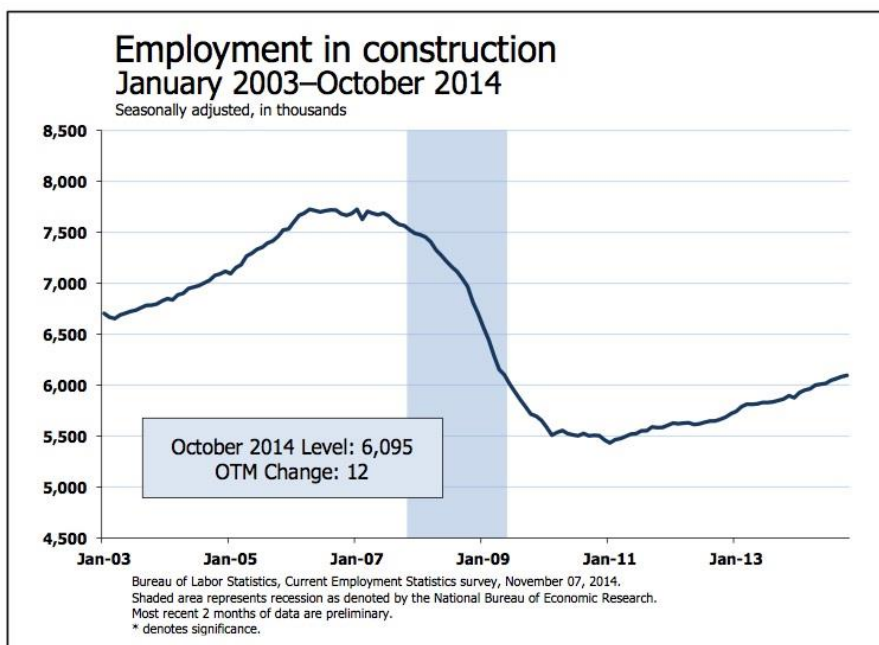
- New facility is modern and contributes to a positive environment with the latest in technologies for instruction (Computer station and media center). (+)
- Increased number of sections offered each semester allowing students to enroll in a greater number of courses. (+)
- New adjunct faculty with specific construction related experience to the program providing current and relevant information to their assigned classes. (+)
- According to Bureau of Labor and Statistics: November 7, 2014

“ + 2,000 Construction Jobs in October

“Construction employment continued to trend up in October, with employment gains coming from residential specialty trade contractors. Over the year, construction has added 231,000 jobs.” Within the sector, employment in residential specialty trade contractors continued to trend up in October (+10,000), and job gains totaled 81,000 over the year.(+)”

- The significant changes that impact architecture are the new Building Information Model concept, which enhances computer applications in architecture drawing. Also universities are becoming more amiable to accepting Community College transfer students because they are aware that their training constitutes an experience level best suited for their type of work.

Construction



Employment in construction continued to trend upward in October (+12,000), bringing the current 12-month net job gain to 231,000.

Within the sector, employment in residential specialty trade contractors continued to trend up in October (+10,000), and job gains totaled 81,000 over the year.

2.5 Describe any laws, regulations, trends, policies, procedures or other influences that have an impact on the effectiveness of your program. Please include any other data (internal or external) that may be relevant to student achievement, learning, and trends within your Basic Skills, CTE, or Transfer Education programs.

- Lead–Abatement Law in effect as of January 2012, Curriculum is needed to teach certification for abatement.
- OSHA is now requiring construction students to possess an OSHA 10 and /or OSHA 30 certification card. Curriculum is needed and training for staff to enable them to teach these courses.
- CPR and First Aid Certification is now required on all construction sites. Curriculum in Construction Safety to be updated to cover these areas. Additional training and certification is needed for staff.
- The College has established a 16 week semester (previously 18 weeks) making college more accessible to the working student.
- Collaborating with the Disability Student Services department insured students were receiving their required accommodations to be successful in their classes.
- Working/collaborating with various programs on Fullerton College campus to establish projects provides students opportunities to utilize their construction education and skills gained to feel they have positively contributed to the college campus and community.
- Each year the State of California enacts new building laws and codes, which are taught in their respective architecture, code, and construction classes.
- Ongoing community support from the American Subcontractors Association who annually provide additional funding for the construction program.
- Ongoing monthly meetings held by the American Subcontractors Association have introduced students to the resources for employment opportunities available in the construction industry.

2.6 Provide any other data that is relevant to your self-study.

The California construction industry is fast-moving, and the one thing you can count on is constant change and evolution. The opportunity to get students construction education, training, Degrees, Certificates and Contractor Licensing is first and foremost within the program. Gaining an understanding of the obstacles, hurdles, and opportunities for success is most important for all students, whether new to the industry or returning to school after work experience. Many of our students especially in the evening courses are currently employed full time construction industry employees.

Here are four current industry trends that are relevant to the Construction Program.

1. Green building. Concern about the environment isn't just limited to press coverage – businesses and homeowners at every level are looking for ways to get comfort and efficiency without damaging the planet. Licensed California contractors who can take advantage of the newest technologies and show off their green building expertise are nearly certain to shine over the next few decades.

2. An emphasis on speed. When today's customers and clients say they want to get started immediately, what they really mean is that they wanted the project finished yesterday. That's forcing builders to get smarter about the way they work and achieve quality, durable results that last over time. The days of slow-moving contractors who took weeks or months just to get started have come and gone – the future belongs to those builders and construction professionals who can move quickly.

3. Efficiency. Efficiency in the California construction industry takes a lot of different forms, but it really boils down to getting great results quickly, and at a low overall cost. Efficiency and accuracy go hand in hand, meaning that contractors with an eye for detail are going to make more money.

4. Specialization. Generally speaking, your clients are always going to prefer working with a company or California licensed contractor that has a recognized specialty over one who "does a little bit of everything." Specialists do better work, and do it faster, and can usually get higher rates on every project.

3.0 Strengths, Weaknesses, Opportunities, Challenges (SWOC)

Based on your analysis in 2.1 through 2.6, answer the following questions:

3.1 What are the strengths of your program?

One of the strongest strengths of the Construction Technology Program is the staff of professionals we currently have in the Program. The Architecture Program has 1 full time faculty member and 3 adjunct faculty members while the Construction Program has 1 full time faculty member and 10 adjunct faculty members. All adjunct faculty members are full time actively employed professionals in the Construction Fields. The uniqueness and diversity of skill and talents are unsurpassed.

The newly remodeled facility has also been an asset/strength to our program. All classrooms have a new computer station with the appropriate electronics to aid in instruction.

The curriculum that we offer is current and relevant and is gives students the information and education necessary to enter the job market or continue their education at the 4-year university level.

We have the complete support of the American Subcontractor's Association who support us and recognize the high level of commitment we have to the Construction Industry.

3.2. What are the weaknesses of your program?

One of the major weaknesses of the Construction Technology Program is the need for Lab Assistants to assist in preparing the Construction Lab for projects, repairing tools and equipment, maintaining the classroom and laboratory for instruction, and assisting the full time instructor. The need for assistance has never been stronger to setup the limited construction laboratory space for effective teaching. The construction garage is also in need of reorganizing, marking tools and equipment and setup for better utilization of the limited space. Procurement of necessary materials and equipment and coordination of all efforts is extremely time consuming and is done outside of teaching obligations. Student aides or paid interns

would benefit the program immensely while providing them experience in managing a construction yard. Most construction companies employ several employees to manage and maintain their construction yards.

Another weakness of the Construction Technology Program is the lack of an adjacent classroom(s) to share instructional aides and materials and to unify the students within the program. The cosmetology classroom does not represent anything in the construction field and students have shared with faculty that the cosmetology classroom is like they are not part of the construction program. Currently, we are very grateful for the use of general use classrooms however, it is not the appropriate environment for construction courses.

A larger laboratory area for building, storage of materials and equipment, a wood shop area where a table saw and other woodworking equipment could be set up, demonstrated and utilized by both staff and students for the enhancement to teaching finish construction.

Additional annual funding for materials and equipment would greatly enhance the program. Logistically trying to complete campus projects means using personal vehicles to pick up materials, transport tools and equipment back and forth and carrying items for great distances. Projects could be finished much quicker without stressing current budgets and waiting for next year's monies and classes to enable completion.

3.3 What opportunities exist for your program?

One of the biggest opportunities we have currently is to complete the 6-year curriculum review and to create new curriculum to meet the fast moving and ever changing construction industry. This includes the creation of new safety, inspection, maintenance, intern, independent study, trades, construction Spanish, and a shell course in curriculum to introduce the latest in construction trends, software, materials, techniques, as well as other emerging topics as we move forward.

It is essential that we maintain at least one full time faculty member in each program to successfully manage the duties and responsibilities we face on a daily basis. We believe we should be pursuing an additional full time faculty member specializing in Construction Inspection within the next 2-3 year period especially as we move to create a code academy at Fullerton College.

Increasing the budget as the program continues to grow with students and staff should be one of the main focuses. Immediately and enhancement by a minimum of an additional \$5,000.00 to the operational budget, would in turn would create an enhanced learning environment for construction students.

Another opportunity would be for the Architecture, Interior Design and Construction Programs to collaborate on curriculum for creation of a Design Build certificate and potentially a Degree. Students need exposure in all of these areas to be more successful and to enable educated decision-making.

The Construction department recently entered into agreements to promote articulation between the

La Habra High School GCADemy and the FC Construction Technology program in both the Architecture and the Construction Programs. The opportunity exists to transition high school students into advanced coursework at Fullerton College

3.4 What challenges exist for your program?

- Materials, equipment, fuel, and the need for more materials for an increasing student population is always a budget challenge.
- Increased administrative paper work is overtaxing the time of faculty members. The accumulated time it takes to complete comprehensive Program Review, PSLOA'S, CSLOA'S, and ISLO'S, literally consumes weeks of faculty time. The valuable time invested in completing newly mandated forms and procedures could and should be used for writing lectures, updating classroom presentations, staff development, implementing department activities, purchasing lab materials and equipment, and serving on college committees. The added paper work placed on faculty in the last few years is especially difficult for technology/vocational instructors. In addition to teaching responsibilities, vocational faculty, also have the added responsibility for the maintenance and updates of all labs and equipment. Programs that are put into place with the implied purpose of enhancing student achievement in fact take away from the time faculty could be using to implement department activities that directly enhance student success.
- 6 year curriculum review as well as the additional new curriculum to meet the new construction laws and standards

4.0 Student Learning Outcomes (SLO) Assessment

4.1 List your program level SLOs and complete the expandable table below.

Architecture:

	Program Student Learning Outcomes (PSLOs)	Date Assessment Completed	Date(s) Data Analyzed	Date(s) Data Used For Improvement	Number of Cycles Completed
1.	Upon successful completion of the Construction Technology Associate in Science Degree in Architecture, the graduate will be able to qualify for entry-level intern positions within the architecture field and / or transfer to a 5 year B.Arch. program at a university	Advisory Committee Meeting 4/26/2012	Advisory Committee Meeting 4/26/2012	4/26/2012	1 cycle

2.	Upon completion of the Architectural CAD Technology Certificate Program the student will be prepared for entry level employment as a CAD technician / 3D BIM modeler and renderer in the fields of architecture, engineering, and interior design.	Advisory Committee Meeting 4/26/2012	Advisory Committee Meeting 4/26/2012	4/26/2012	1 cycle
3.	Upon successful completion of the Carpentry Associate in Arts Degree, the graduate will be able to qualify for entry-level employment positions within the Construction Industry and / or transfer to a four-year university.	Advisory Committee Meeting 4/26/2012	Advisory Committee Meeting 4/26/2012	4/26/2012	1 cycle
4.	Upon successful completion of the Construction Inspection Associate of Science Degree, the graduate will be able to qualify for entry-level employment positions within the Construction Inspection Industry and / or transfer to a four-year university.	Advisory Committee Meeting 4/26/2012	Advisory Committee Meeting 4/26/2012	4/26/2012	1 cycle
5.	Upon successful completion of the Construction Management Associate in Science Degree, the graduate will be able to qualify for entry-level employment positions within the Construction Industry and / or transfer to a four-year university.	Advisory Committee Meeting 4/26/2012	Advisory Committee Meeting 4/26/2012	4/26/2012	1 cycle
6.	Upon successful completion of the Construction Technology Associate in Science Degree, the graduate will be able to qualify for entry-level employment positions within the Construction Industry and / or transfer to a four-year university.	Advisory Committee Meeting 4/26/2012	Advisory Committee Meeting 4/26/2012	4/26/2012	1 cycle
7.	Upon successful completion of the core curriculum for the Construction Estimating Certificate, the student will be able to qualify for entry level construction estimating positions with knowledge in both manual and computer based estimating procedures	Advisory Committee Meeting 4/26/2012	Advisory Committee Meeting 4/26/2012	4/26/2012	1 cycle

8.	Upon successful completion of the core curriculum for the Construction Inspection Certificate, the student will be able to sit for the appropriate code examination for certification by the appropriate code agency.	Advisory Committee Meeting 4/26/2012	Advisory Committee Meeting 4/26/2012	4/26/2012	1 cycle
9.	Upon successful completion of the core curriculum for the Construction Technology Certificate, the student will be able to qualify for 1 1/2 years credit towards the California State Contractor's License Board Contractors license requirements.	Advisory Committee Meeting 4/26/2012	Advisory Committee Meeting 4/26/2012	4/26/2012	1 cycle

4.2 Assessment: Complete the expandable table below.

Program Student Learning Outcomes Assessment for Instructional Programs at Fullerton College			
Intended Outcomes	Means of Assessment & Criteria for Success	Summary of Data Collected	Use of Results
1. A.S. Degree in Architecture / CAD Certificate. The intention for the PSLO is for students to have the qualifications necessary to enter entry-level employment and to successfully transfer to a B.ARCH. Program at a university.	A minimum of 70% success rate in all required courses will be mandatory for the criteria for successful completion. Means of assessments are by quizzes, exams, and projects.	118 students assessed 92% average success rate from Fall 2011 to Fall 2014	Use as an established benchmark for future achievements.
2. Upon successful completion of the Carpentry Associate in Arts Degree, the graduate will be able to qualify for entry-level employment positions within the Construction Industry and / or transfer to a four-year university.	A minimum of 70% success rate in all required courses will be mandatory for the criteria for successful completion. Means of assessments are by quizzes, exams, and projects.	125 students assessed 89% average success rate from Fall 2011 to Fall 2014	We are on track with these results. Strive for higher percentage of success

3. Upon successful completion of the Construction Inspection Associate of Science Degree, the graduate will be able to qualify for entry-level employment positions within the Construction Inspection Industry and / or transfer to a four-year university.	A minimum of 70% success rate in all required courses will be mandatory for the criteria for successful completion.Means of assessments are by quizzes, exams, and projects.	90 students assessed 94% average success rate from Fall 2011 to Fall 2014	Use as an established benchmark for future achievements.
4. Upon successful completion of the Construction Management Associate in Science Degree, the graduate will be able to qualify for entry-level employment positions within the Construction Industry and / or transfer to a four-year university.	A minimum of 70% success rate in all required courses will be mandatory for the criteria for successful completion. Means of assessments are by quizzes, exams, and projects.	62 students assessed 95% average success rate from Fall 2011 to Fall 2014	Use as an established benchmark for future achievements.
5. Upon successful completion of the Construction Technology Associate in Science Degree, the graduate will be able to qualify for entry-level employment positions within the Construction Industry and / or transfer to a four-year university.	A minimum of 70% success rate in all required courses will be mandatory for the criteria for successful completion.Means of assessments are by quizzes, exams, and projects.	163 students assessed 85% average success rate from Fall 2011 to Fall 2014	We are on track with these results. Strive for higher percentage of success
6. Upon successful completion of the core curriculum for the Construction Estimating Certificate, the student will be able to qualify for entry level construction estimating positions with knowledge in both manual and computer based estimating procedures	A minimum of 70% success rate in all required courses will be mandatory for the criteria for successful completionMeans of assessments are by quizzes, exams, and projects..	45 students assessed 88% average success rate from Fall 2011 to Fall 2014	We are on track with these results. Strive for higher percentage of success
7. Upon successful completion of the core curriculum for the Construction Inspection Certificate, the student will be able to sit for the appropriate code examination for certification by the appropriate code agency.	A minimum of 70% success rate in all required courses will be mandatory for the criteria for successful completion. Means of assessments are by quizzes, exams, and projects.	62 students assessed 94% average success rate from Fall 2011 to Fall 2014	Use as an established benchmark for future achievements

8. Upon successful completion of the core curriculum for the Construction Technology Certificate, the student will be able to qualify for 1 1/2 years credit towards the California State Contractor's License Board Contractors license requirements.	A minimum of 70% success rate in all required courses will be mandatory for the criteria for successful completion.	163 students assessed 85% average success rate from Fall 2011 to Fall 2014	We are on track with these results. Strive for higher percentage of success
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4.3 What percentage of your program level SLOs have ongoing assessment? Comment on progress/lack of progress. **100% of the Program level SLO's are still ongoing for both Construction and Architecture.**

All courses and all students in the Construction Program receive Student Learning Outcome Assessments. These student outcomes are so noted on each course syllabus. We are currently in the ongoing Fall 2014 cycle of assessments.

4.4 How has assessment of program level SLOs led to improvements in student learning and achievement?

The SLO's have contributed to positive reinforcement of the curriculum and were successful in identifying any weaknesses. The IDLO's also contributed to verify that in the following areas:

Reading: Students were able to comprehend and interpret various types of written information.

Writing: Students were able to communicate opinions, ideas and information in writing, including the creation of letters, reports, manuals, and graphs using correct grammar, spelling, punctuation and appropriate language, style and formats.

Listening: Students were able to interpret and respond appropriately to verbal and nonverbal messages.

Speaking: Students were able to organize ideas and communicate verbally as appropriate to the audience and the situation,, including participation in conversations, discussions and group activities.

4.5 How has assessment of program-level SLOs led to improvements in transfer or certificate/degree awards?

It has led to students being able to compete successfully in university level projects. Examples are students who now are attending CAL Poly Pomona, California State University Long Beach, California State University Fullerton and Northern University of Arizona and are doing extremely well.

4.6 What challenges remain to make your program level SLOs more effective?

The biggest challenge is tracking students who have completed our programs. The majority of them who leave do not look back. Once in a while a student may visit. Former students are

invited to return and participate in judging current student projects. This is an assessment in and of itself because I am able to judge firsthand the former student's ability to critique architectural work. For construction, former students would move on to apprenticeships, but would serve on our advisory committee or even be hired as adjunct faculty. But as a whole, it's difficult to track students and this becomes an ongoing challenge for an effective Program level SLOA.

5.0 Evaluation of Progress Toward Previous Goals/SAP's (Future program review templates for this section will identify "previous goals" as "previous *strategic action plans*"-- SAP's.)

5.1 List the goals from your last self-study/program review.

Acquisition of an additional adjacent classroom/laboratory for the construction program as requested in the previous 2009-2010-program review with access to construction materials, instructional models and equipment, which are integrated, for course objectives.

Expose the latest in equipment and materials to students using a variety of medias while promoting inquiry and intellectual curiosity, personal growth and an appreciation for the power of learning.

All current Construction Technology courses will be accessible by electronic files on MyGateway by Fall 2017 eliminating almost all production costs from the mailroom/copy center.

5.2 Describe the level of success and/or progress achieved in the goals listed above.

Acquisition of the woodshop laboratory room as requested in the previous 2009-2010 program review as stated in 5.1 did not occur. The woodshop laboratory was given to the welding program and no additional room was allocated for the Construction Program.

All staff have been striving to utilize MyGateway to make course materials accessible to students and to virtually eliminate production costs from the mailroom/copy center. 95% complete.

Students have been exposed to the latest in equipment and materials in all courses throughout The program and strategic action plans have been implemented to achieve future exposure.

5.3 How did you measure the level of success and/or progress achieved in the goals listed above?

They were measured by the effectiveness of the results stated above in high success and retention scores. The number of degrees and certificates were also a complement to the hard work by the staff to insure successful outcomes and to assist any one in need of additional assistance. We are proud of the results achieved and can only continue to strive to see the results even higher.

5.4 Provide examples of how the goals in the last cycle contributed to the continuous quality improvement of your program.

Students who were able to access electronic materials from MY Gateway seemed more likely to succeed because they had and could easily reproduce any lecture materials and also with the syllabi being constantly available this led to less confusion as to what was expected of them in the course.

The new facility provided an array of audio visual equipment, which enhanced the learning process. The look and feel also gave students more of a sense of pride in their surroundings.

5.5 In cases where resources were allocated toward goals in the last cycle, how did the resources contribute to the improvement of the program?

\$2,000.00 was allocated for training in the Construction Program. A 3 day University Professors training seminar was attended with the Masonry Institute Association in April 2014. This training was not only valuable in course content but, initiated contact with 4 year Institutions that currently have architecture and construction programs.

They contributed through enhancing the overall teaching effectiveness of both full time and adjunct faculty.

5.6 If funds were not allocated in the last review cycle, how did it impact your program?
Funds for training were provided as requested. Other areas were not funded.
Additional operational budget monies need to be increased.

6.0 Strategic Action Plans (SAP)[formerly called Goals (6) and Requests for Resources (7)]

Using the tables below, list the strategic action plans (SAPs)for your program. These plans should follow logically from the information provided in the self-study. Use a separate table for each SAP.

SAPsfor this three-year cycle:

STRATEGIC ACTION PLAN # 1	
Describe Strategic Action Plan: (formerly called short-term goal)	Complete necessary curriculum for Construction Safety including OSHA training as well as American Heart Association CPR training and American Red Cross First Aid Certifications for students.
List College goal/objective the plan meets:	College Goal #: Goal 1: The Construction Program will promote student success. Objective #: Objective 1: Address the unique needs of students who have not been exposed or who are under-prepared in the construction related fields.
Describe the SAP: (Include persons responsible and timeframe.)	Within the next 3 year program review timeframe. Construction coordinator will oversee.

What <i>Measurable Outcome</i> is anticipated for this SAP?	Skill upgrading will prepare faculty to better prepare students for job opportunities in the latest trends and standards that employers seek for qualifying open positions. Faculty will attend staff development programs and staff development classes and specific programs related to workshops, seminars and conventions.
What specific aspects of this SAP can be accomplished without additional financial resources?	Without financial resources the attendance to these functions will be limited, as many of these workshops, seminars and conventions require funding to attend.

If additional financial resources would be required to accomplish this SAP, please complete the section below. Keep in mind that requests for resources must follow logically from the information provided in this self-study.

Type of Resource	Requested Dollar Amount	Potential Funding Source
Personnel		
Facilities		
Equipment	\$5,000.00	FC Instructional Equipment Budget
Supplies		
Computer Hardware		
Computer Software		
Training	\$3,500.00	Staff Development
Other		
Total Requested Amount	\$8,500.00	

STRATEGIC ACTION PLAN # 2	
Describe Strategic Action Plan: (formerly called short-term goal)	Develop a Construction Inspection Academy (ultimately Long Term resulting in an Associate and possible future Bachelors Program.
List College goal/objective the plan meets:	<p>College Goal #:Goal 1: The Construction Program will promote student success.</p> <p>Objective #: Objective 1: Address the unique needs of students who have not been exposed or who are under-prepared in the construction related fields.</p> <p>College Goal #:Goal 3: The Construction Program will strengthen connections with the community.</p> <p>Objective #:Objective 3: Strengthen partnerships with local</p>

	business and industry.	
Describe the SAP: (Include persons responsible and timeframe.)	Within the next 5years timeframe. Construction coordinator will be directly involved.	
What <i>Measurable Outcome</i> is anticipated for this SAP?	Skill upgrading will prepare faculty to better prepare students for job opportunities in the latest trends and standards that employers seek for qualifying open positions. Faculty will attend staff development programs and staff development classes and specific programs related to workshops, seminars and conventions.	
What specific aspects of this SAPcan be accomplished without additional financial resources?	The curriculum can be completed during the time frame however, additional staffing and classroom will be necessary.	
If additional financial resources would be required to accomplish this SAP, please complete the section below. Keep in mind that requests for resources must follow logically from the information provided in this self-study.		
Type of Resource	Requested Dollar Amount	Potential Funding Source
Personnel	\$100,000.00	FC Budget
Facilities	Additional adjacent/ dedicated classroom	
Equipment		
Supplies		
Computer Hardware		
Computer Software		
Training		
Other	\$5,000.00	FC Budget
Total Requested Amount	\$105,000.00	

STRATEGIC ACTION PLAN # 3		
Describe Strategic Action Plan: (formerly called short-term goal)	The staff will upgrade their skills and knowledge of current Construction Industry standards.	
List College goal/objective the plan meets:	<p>College Goal #:Goal 1: The Construction Program will promote student success.</p> <p>Objective #:Objective 1: Address the unique needs of students who have not been exposed or who are under-prepared in the construction related fields.</p>	
Describe the SAP: (Include persons responsible and timeframe.)	Within the next 3 year program review timeframe. Construction coordinator will oversee.	
What <i>Measurable Outcome</i> is anticipated for this SAP?	Skill upgrading will prepare faculty to better prepare students for job opportunities in the latest trends and standards that employers seek for qualifying open positions. Faculty will attend staff development programs and staff development classes and specific programs related to workshops, seminars and conventions.	
What specific aspects of this SAP can be accomplished without additional financial resources?	Without financial resources the attendance to these functions will be limited, as many of these workshops, seminars and conventions require funding to attend.	
<p>If additional financial resources would be required to accomplish this SAP, please complete the section below. Keep in mind that requests for resources must follow logically from the information provided in this self-study.</p>		
Type of Resource	Requested Dollar Amount	Potential Funding Source
Personnel		
Facilities		
Equipment		
Supplies		
Computer Hardware		

Computer Software		
Training	\$3,500.00	Fullerton College Staff Development
Other		
Total Requested Amount	\$3,500.00	

STRATEGIC ACTION PLAN # 4		
Describe Strategic Action Plan: (formerly called short-term goal)	Acquire concrete finishing equipment needed in the Concrete and Masonry course to demonstrate and teach the proper finishing techniques for concrete.	
List College goal/objective the plan meets:	<p>College Goal #: Goal 1: The Construction Program will promote student success.</p> <p>Objective #: Objective 1: Address the unique needs of students who have not been exposed or who are under-prepared in the construction related fields.</p>	
Describe the SAP: (Include persons responsible and timeframe.)	Within the next 2 year program review timeframe. Construction coordinator will oversee.	
What <i>Measurable Outcome</i> is anticipated for this SAP?	Knowledge, skill and quality of concrete projects will greatly enhance the level of education in the course. The quality and skill level of completed projects will measure the outcome.	
What specific aspects of this SAP can be accomplished without additional financial resources?	Financial resources will be necessary to facilitate acquisition of the equipment. 2 units are needed at the cost of approximately \$2500.00 per unit. Total cost \$5,000.00	
<p>If additional financial resources would be required to accomplish this SAP, please complete the section below. Keep in mind that requests for resources must follow logically from the information provided in this self-study.</p>		
Type of Resource	Requested Dollar Amount	Potential Funding Source
Personnel		
Facilities		
Equipment	\$5,000.00	FC Budget Instructional Equipment
Supplies		
Computer Hardware		
Computer Software		

Training		
Other		
Total Requested Amount	\$5,000.00	

7.0 Long Term Plans

Describe the long term plans (four-six years) for your program. Please consider future trends in your narrative.(Identifying financial resources needed for these plans is optional.)

One of the long-term goals within the department is to increase a full time faculty member (growth position) in both the Architecture and Construction Programs giving each program 2 full time staff members and a compliment of part time instructors. Additionally, a second dedicated construction classroom that can be set up for the expansion of the Construction Code Curriculum to form a “Code Academy” within the Construction Technology Department. This expansion of curriculum may also be used to develop a 4 year Bachelor of Science Degree Program in a Construction related discipline.

The acquisition of additional equipment including a pickup truck designated for the Construction Program with an 11 foot bed w/ rack, would be a tremendous asset to the program as logistically it is currently a problem to pick up materials and equipment, move materials to construction sites and generally run the construction program as it should be.

8.0 Self-Study Summary

This section provides the reader with an overview of the highlights, themes, and key elements of this self-study. It should not include new information that is not mentioned in other sections of this document.

The Construction Program is a thriving program and is growing on an annual basis. We maintain an educated staff dedicated to the education and success of all students. Currently, we maintain 1 full time staff member in the Architecture Program with 3 adjunct faculty and 1 full time faculty member and 10 adjunct faculty members in the Construction Program. It will be necessary to maintain at least 1 full time faculty member in each program for sustainability and quality of instruction. Within the next 2-6 year period we would like to increase the full time faculty to 2 full time faculty members in each of the Architecture and the Construction Programs. The new full time Construction Instructor would fulfill Strategic Action Plan #2 to teach and oversee the Construction Code Academy. In addition, any vacancies or expansion of courses would need additional adjunct faculty to be hired on an as needed basis.

The current construction budget needs to maintain ‘As Is’ without reduction and continue the supplemental Lottery money as well. This additional funding has allowed the Construction Program the opportunity to complete several on campus projects for the Athletics department. They include, the Men’s Baseball Field Storage Building, the Aquatics Storage Building, concrete work for the Track and Field Program, the Women’s Softball Facility (currently underway and near completion), the LLRC wall addition, and an array of other projects. Without this additional funding, these projects

would most certainly not have occurred. We would like to see this funding increased by \$5,000.00 and justified by an increase in material and equipment costs as well as an increase in students.

Equipment funding as indicated in Strategic Action Plan #4 for concrete finishing equipment is also on the Agenda. This equipment would allow students to utilize equipment used in the field to finish concrete. Currently, all finish work is done with hand trowels.

One of the main concerns and goals for the Construction Program is to continue and enhance our staff development and to create new curriculum to stay abreast of the constantly growing and changing Construction Industry. In order to accomplish this, we are implementing 2 Strategic Action Plans #1 & #3, which specifically identifies the areas currently needed to maintain, as well as certify personnel in order to offer new curriculum in the program. This curriculum includes the creation of new OSHA safety, inspection, maintenance, internship, independent study, trades, construction Spanish, and a shell course in curriculum to introduce the latest in construction trends, software, materials, techniques, as well as other emerging topics as we move forward. These two Strategic Action Plans cannot be accomplished without funding.

For the past three plus years, the American Subcontractor's Association has recognized the Fullerton College Construction Program for the commitment to excellence in Construction Education. In Spring 2015, the Fullerton College Construction Program will be hosting a breakfast and Open House for the members of The American Subcontractor's Association.

Division Deans' or appropriate Immediate Management Supervisor (IMS)
Response Page



I concur with the findings contained in this Program Review.



I concur with the findings contained in this Program Review with the following exceptions (include a narrative explaining the basis for each exception):

Area of exception:



I do not concur with the findings contained in this Program Review (include a narrative exception):
