



**Drafting/Architecture
PROGRAM REVIEW REPORT
2014 - 2015**

Faculty and Staff (List all)

Full Time	Adjunct	Support Staff
Fernandes, Richard	Au, Susanna	Marti DeYoung
	Rodriguez, Eric	
	Tabata, Flint	
	Yu, Jane	
	Antonio C. Anfiteatro	



Design / Architecture

I. Executive Summary

Program Description:

Design and Drafting Technology, a career technical and transfer program was completely revised in the Spring of 2011, offers foundational curriculum in support of multiple student outcomes:

- Certificates of Achievement recognized by the California Community College system:
 - Computer Aided Design (CAD)—Architecture and Drafting Technology
 - Architectural Design
 - Computer Generated Imagery (CGI)
- Associate degree in Design and Drafting Technology
- Lower division requirements for transfer majors in architecture, engineering, and project management.

Theory, and hands-on experiences, prepare students for entry-level employment or advancement in occupations that require graphic communications, including sketches, mechanical drawings, computer-aided design, and illustrations. In addition to discipline-specific content, students are engaged in project learning aligned with 21st Century themes: Learning and Innovation Skills (creativity, critical thinking/problem solving, effective application, and communication plus collaboration); and Information, Media and Technology Skills (information, media, technology, and communications literacy). Students completing courses in the Design and Drafting Technology (DDT) Program acquire understanding, knowledge, skills and abilities in the areas listed at the end of the Executive Summary. Courses in Design and Drafting Technology (DDT) are offered during the day and evening.

Strengths/Effective Practices:

Transfer to the University is the greatest strength and the most effective practice. Skill attainment is also very high.

CORE INDICATORS

Indicator	2009-10 (Actual)	2010-11 (Actual)	2011-12 (Actual)	2012-13 (Actual)
1. Technical Skill Attainment	100.00	90.00	91.49	91.67
2. Credential, Certificate, or Degree	85.71	85.00	100.00	91.67
3. Persistence or Transfer	89.19	87.50	100.00	100.00

Weaknesses/Lessons Learned:

The one weakness has been placement which was below negotiated levels. This was do to most students transferring to the University and the economy. However this year (**100.00**) shows a trend that students are transferring and working while going to the University.

	2009-10 (Actual)	2010-11 (Actual)	2011-12 (Actual)	2012-13 (Actual)
4. Placement	75.00	81.82	100.00	100.00

Recommendations/Next Steps:

Placement must continue to be addressed. However, with the high rate of students transferring and working while going to the University, this may not be an issue.



Design / Architecture

II. Curriculum

Course Number and Title (Courses must be reviewed every six years to remain active)	Date of last Curriculum Committee Review	2013 - 2014 Course offerings By Term and # of Sections				SLOs Assessed (Semester / year)
		Summer	Fall	Winter	Spring	
ARCH100 Introduction to Architecture	S12	0	2	0	1	Spring 2014
ARCH102 Visual Communications	S12	0	1	0	1	Spring 2014
ARCH110 Intro to Functional Design	S12	0	2	0	1	Spring 2014
ARCH 111 Basic Architectural Design	S12	0	0	0	1	Spring 2014
ARCH200 Portfolio Preparation	S12	0	0	0	1	Spring 2014
ARCH201 Architectural Design I	S12	0	1	0	0	Fall 2013
ARCH202 Architectural Design II	S12	0	0	0	1	Spring 2014
ARCH250 History of Architecture I	S12	0	1	0	0	Fall 2013
ARCH251 History of Architecture: Baroque	S12	0	0	0	1	Spring 2014
DRAF101 CAD and Mechanical Drawing	S12	1	2	0	1	Spring 2014
DRAF102 Technical Illustration	S12	0	1	0	1	Spring 2014
DRAF103 Advanced Engineering Drawing	S12	0	0	0	0	Not Offered
DRAF160 Intro Architect/CAD	S12	0	2	0	1	Spring 2014
DRAF161 Residential CAD	S12	0	0	0	1	Spring 2014
DRAF198 Special Problems	S12	0	0	0	0	Not Offered
DRAF290 Introduction to Maya Practices	S12	0	1	0	0	Fall 2013
DRAF291 Learning Maya Transitions	S12	0	0	0	0	Not Offered

III. Degrees and Certificates

Title	Type	Date Approved by Chancellor's Office	Number Awarded 2011	Number Awarded 2012	Number Awarded 2013	Number Awarded 2014
Computer Aided Design (CAD)- Architecture and Drafting	C	1984	2		1	1
Architectural Design	C	1984	Unknown	Unknown	Unknown	Unknown
Computer Generated Imagery (CGI)	C	1984	Unknown	Unknown	Unknown	Unknown
Design and Drafting Technology	AS	1960	11	3	2	1

TYPE: **AA** = Associate in Arts **AS** = Associate in Science Degree **C** = Certificate **S** = Skill Award
AA-T = Associate in Arts for Transfer **AS-T** = Associate in Arts for Transfer

IV. Sections Offered

Review the data sheet for section counts, which includes the following information by course category:

1. Section counts
2. Enrollment by student demographic
3. Success and retention

Provide a brief narrative analysis and describe any trends or concerns you noticed.

During this review period, we are adjusting the schedule of course offerings according to the curriculum revisions and total reajustment of the schedule. Economic cuts affected offerings, and now we are dealing with the effects of adding classes back into the schedule. We changed the facilities which eliminated one CAD lab and this has caused conflicts on when courses requiring a computer can be taught.

Our lecture room PC 314 has been taken away. This has had a adverse affect on the studio area for the architectural students because it now must be used as a lectue room. The studio area for the architectural students is required for a future accreditiaton by the Archtechtural Board.

The Archectecture and Drafting Programs **can not** grow do to insuficent facilities.

V. Student Demographics

Review the data sheet for program enrollment, retention, and success which includes data on these metrics by student demographic

Provide a brief narrative analysis and describe any trends or concerns you noticed.

The Design and Drafting Technology (DDT) and Architecture Program is similar to student demographics of Citrus College. Therefore, the completion of program degrees, certificates, transfer and employment are similar to the statements below.

The Design and Drafting Technology (DDT) and Architecture Program student transfer is the greatest strength and the most effective practice. Credential, Certificate, Degree and Skill attainment are very high. The Nontraditional **Participation** is at or very close to Negotiated levels. However, Nontraditional **Completion** is **above** Negotiated levels.

Placement must continue to be addressed. However, with the high rate of students transferring and working while going to the University, this may not be an issue.

CORE INDICATORS

Indicator	2009-10 (Actual)	2010-11 (Actual)	2011-12 (Actual)	2012-13 (Actual)
4. Placement	75.00	81.82	71.43	100
5. Nontraditional Participation	18.92	17.50	19.15	21.05
6. Nontraditional Completion	18.75	19.05	30.77	28.57

CITRUS COLLEGE Negotiated Level	2009-10	2010-11	2011-12	2012-13
Indicator	2009-10 (Actual)	2010-11 (Actual)	2011-12 (Actual)	2012-13 (Actual)
5. Nontraditional Participation	12.58%	19.05%	20.37%	22.60%
6. Nontraditional Completion	12.02%	19.72%	22.10%	26.50%

VI. Student Accomplishments

Provide current, interesting information about accomplishments of students who have participated in this program.

Students continue to receive scholarships from the American Society of Engineers and Architects. In 2014 they received over \$5000.00, more scholarships than any other Community College.

Students bring Christmas gifts to City of Hope children every year.

Transfer rate was 100% in 2013.

Student work was featured in a library showing in May of 2013.

Students created models showing Citrus College Buildings from 1915 to 2015.

EMP LINK:

<http://www.citruscollege.edu/info/reports/Pages/default.aspx>

VII. Student Learning Outcomes Assessment Reflection

Academic Senate Approved 4/11/12

All SLOs for every course will need to be assessed at least once within the 5-year comprehensive program review cycle. Upon reflection with program colleagues (or self-reflection for programs with only one instructor), please provide a brief narrative to the following (at least one row for one SLO needs to be completed for each course at this time):

Complete SLO assessment and analysis in the table at:

<http://intranet/SLO/Pages/default.aspx>

DOCUMENT REFLECTION DISCUSSION BELOW (FOR BOTH SUMMER/FALL 2013 AND WINTER/SPRING 2014)

After reviewing all the SLO'S for Architecture (ARCH) and Drafting (DRAF) it is clear that student skill levels are above industry averages. ARCH 102 and DRAF 102 Visual Communication is the single exception. Skill levels should be increased to meet the stringent requirements of transfer and industry. The first step will be to change the text. Also the introduction of color theory would enhance the sketches.



Design / Architecture

VIII. Progress toward previous goals

During 2013 - 2014, we accomplished:

	Previous Goals	Progress/ Persons Responsible	Status	Institutional Goal
Goal 1 2013	Provide transfer credit to four and five-year colleges and universities	Work with institutional research to confirm data elements to track DDT student transfer & retention in (articulated) university.	In progress	1.2.3
Goal 2 2013	Provide basic, intermediate, and advanced knowledge and skills for students	Identify minimum qualifications needed for a full time, tenure track faculty member.	need	1.1.1
Goal 3 2013	Develop a six-year plan to update technology to ensure the labs have hardware and software congruent with industry needs. Confirm funding for the plan.	Assess emerging industry standards, compare/contrast with lab equipment and software inventory, and establish logical rotation that results in updated equipment on six-year cycle. Spring 2012	Pending Budget for equipment update, in PC 304	2.2.6

In addition to previous goals, during 2014 - 2015, we plan to:

	Description	Actions / Target Date	Data Index*	Institutional Goal**
Goal 1	Advise students how to successfully attain degrees, certificates, employment and transfer.	Emphasize how to successfully attain degrees, certificates, employment and <u>transfer</u> in all DDT classes. Ongoing / every semester.		1.1
Goal 2	Provide basic, intermediate, and advanced knowledge and skills for students	Identify minimum qualifications required for a full time, tenure track faculty member. Fall 2014		1.1 EFMP 1 EFMP 2
Goal 3	Update technology to ensure the labs have hardware and software congruent with industry needs. Confirm funding for the plan.	Assess emerging industry standards, compare/contrast with lab equipment and software inventory, establish logical rotation that results in updated equipment on six-year cycle. Spring 2014		2.2 EFMP 1 EFMP 2
Goal 4	PC 314 Lectur room has been taken away. This will have a advese affect on the	Dedicate PC 314 as a Lecture hall, studio, additional Computer room to the Architectural Program and		1.1

	<p>studio area for the architectural students because it now must be used as a lecture room. The studio area for the architectural students is required for a future accreditation by the Architectural Board.</p> <p>The Architecture and Drafting Programs can not grow do to insufficient facilities. PC 304, 306 and 309 need to be redesigned to meet industry, educational and student needs.</p> <p>Dedicate PC 314 as a Lecture hall, studio, additional Computer room to the Architectural Program and associated classes to become a member of the Association of Collegiate Schools of Architecture (ACSA).</p>	<p>associated classes to become a member of the Association of Collegiate Schools of Architecture (ACSA).</p> <p>The Architecture and Drafting Programs can not grow do to insufficient facilities. PC 304, 306 and 309 need to be redesigned to meet industry, educational and student needs.</p>		<p>2.3 EFMP 1 EFMP 3</p>
<p>Goal 5</p>	<p>Dedicate PC 309 as a studio to the Architectural Program and associated classes to become a member of the Association of Collegiate Schools of Architecture (ACSA).</p> <p>The Architecture and Drafting Programs can not grow do to insufficient facilities. PC 304, 306 and 309 need to be redesigned to meet industry, educational and student needs.</p>	<p>The Architecture and Drafting Programs can not grow do to insufficient facilities. PC 304, 306 and 309 need to be redesigned to meet industry, educational and student needs.</p> <p>Dedicate PC 309 as a studio to the Architectural Program and associated classes to become a member of the Association of Collegiate Schools of Architecture (ACSA).</p>		<p>1.1 2.3 EFMP 1 EFMP 3</p>

**For institutional goals visit link below.*

<http://www.citruscollege.edu/admin/planning/Documents/StrategicPlan2011-2016.pdf>

***For Educational and Facilities Master Plan, use table below.*

EFMP 1 – Collaborate with facilities planners to modify the laboratory so that it reflects a real-world setting analogous to an architectural/engineering studio.
EFMP 2 – Integrate three-dimensional design across the curriculum
EFMP 3 – Respond to industry succession planning needs and the increasing retirements of licensed architects and engineers.



Design /Architecture

IX. Budget Recommendations for 2014 - 2015

Certificated Personnel (FNIC)

Position	Discuss impact on goals / SLOs	Impact	Priority
Full time faculty	Technical qualifications to effectively teach CAD and CGI (specifically DRAF 160, 161, 190,290, 291); to increase offerings of core DDT courses essential to certificate and degree completion	M, N, Q, F, C	1

Classified Personnel

Position	Discuss impact on goals / SLOs	Impact	Priority
Lab Aide	Open labs minimum of 15 additional hours to increase student access to unique hardware & software.	M, N, Q, F	2

Staff Development (Division)

Item	Discuss impact on goals / SLOs	Cost	Impact	Priority
Conference for new California Green Code and LEED Certification.	Design professors need to keep current with the New California Green Code and LEED requirements.	\$1000.00	M, N, Q, F	2

Facilities (Facilities)

Describe repairs or modifications needed	Discuss impact on goals / SLOs	Building / Room	Impact	Priority
Dedicate PC 314 as a Lecture hall, studio,	PC 314 Lecture hall has been taken away. This will have a adverse affect	\$20000.00 PC 314	M, N, Q, F, C	1

<p>additional Computer room to the Architectural Program and associated classes to become a member of the Association of Collegiate Schools of Architecture (ACSA). Modification to mimic industry's "Studio" approach of room.</p>	<p>on PC 309 the studio area for the architectural students because it now must be used as a lecture room. The studio area for the architectural students is required for a future accreditation by the Architectural Board.</p> <p>The Architecture and Drafting Programs can not grow due to insufficient facilities. PC 304, 306 and 309 need to be redesigned to meet industry, educational and student needs.</p>			
<p>Modification to mimic industry's "Studio" approach of room PC-309.</p> <p>The Architecture and Drafting Programs can not grow due to insufficient facilities. PC 304, 306 and 309 need to be redesigned to meet industry, educational and student needs.</p>	<p>Project-based learning, collaboration, and multi-disciplinary critical-thinking is accomplished in an open 'studio' space the room has been modified, however, the room requires patching and painting due to construction problems.</p> <p>The Architecture and Drafting Programs can not grow due to insufficient facilities. PC 304, 306 and 309 need to be redesigned to meet industry, educational and student needs.</p> <p>PC 309 should be dedicated as a studio to the Architectural Program and associated classes, This is a requirement to become a member of the Association of Collegiate Schools of Architecture (ACSA).</p>	<p>\$50,000.00</p> <p>PC309/306/304</p>	<p>M, N, Q, F, C</p>	<p>1</p>

Computers / Software (Tecs)

Item	Discuss impact on goals / SLOs	Cost	Impact	Priority
Autodesk subscription for software per year	Subscription update of current CAD and Maya software per year. Exhibit - C	\$2500	M, N, Q, F, C	1
5 PCs Work Stations per year replacement.	Updated computers required to accommodate current CAD software	\$10,000	M, N, Q, F, C	1

Equipment

Item	Discuss impact on goals / SLOs	Cost	Impact	Priority
OCE maintenance	Required to keep OCE plotter in working condition and paper supplies	\$1000.00	M, N, Q, F, C	1

Supplies (Division)

Item	Discuss impact on goals / SLOs	Cost	Impact	Priority
N/A				

General Budget Guidelines

Budget Preparation Tips:

- Include items on the budget form that are needed for program success even if there is no financial need associated with the request (i.e. training that could be accomplished with on-campus resources, sharing of resources with another discipline or department etc.)
- Whenever possible, obtain actual cost for the items / equipment you wish to purchase. This avoids situations where items are considered for purchase but it is determined that the actual cost greatly exceeds the original estimate.
- Identify unit cost (cost per item) and the number of units desired in requests.
- Indicate if there is a lower level of financial support that would be workable in your educational plan – if you request \$30,000 for a classroom set of equipment (one item for each student), if \$15,000 were available, would it be possible for two students to share an item? Is the request “All or nothing”?

Determining Budget Impact:

Indicate one or more of the following areas that your request will affect:

M = Mission: Does the request assist the program in meeting the District’s mission and established core competencies and / or diversity?

N = Need: Does the request assist the program in addressing needs based on labor market data, enrollment, articulation, advisory committee, regional agreements, etc.?

Q = Quality: Does the request assist the program in continuing or establishing appropriate lecture/lab unit values? Will the request assist in the regular reviewed / updated of course outlines? Is faculty development adequate? Does program need support in addressing the State and District emphasis on critical thinking, problem solving and written expression? Does program need support to meet stated objectives in the form of SLOs? Do course pre-requisites and co-requisites need to be validated?

F = Feasibility: Does the request assist the program maintain adequate facilities, equipment, and library resources? Is there a need for repair or modification of facilities? Is there a need for new equipment or supplies? Are course offerings frequent enough for students to make adequate progress in both day and evening programs? Does the program have adequate communication with & support from Counseling?

C = Compliance: Does the request assist the program in meeting Federal, State & District requirements? (Do the course outlines meet state, district & federal regulations for content? Do vocational programs have regular advisory meetings?)

Budget Priorities:

When establishing priority, consider the following:

Priority 1: This item is mandated by law, rule, or district policy.

Priority 2: This item is essential to program success.

Priority 3: This item is necessary to maintain / improve program student learning outcomes.



Design /Architecture

X. Career Technical Education

TOP CODE: 0953.00 – Drafting/Design Technology

1. Advisory Committee meeting date(s): November 1, 2013

2. Advisory Committee recommendations

1.	Hardware (new computers) are outdated and do not meet industry standards in PC 304 and should be immediately replaced.
2.	<p>Students need DEDICATED studio space (PC 309) to create a working environment. It will help to pollinate ideas and exchange skills with each other.</p> <p>Industry ‘designs’ using a studio model that integrates multiple disciplines; the collaboration generates creative solutions to complex problems. Advisory recommended increased use of this project/problem oriented approach to learning and recommended a classroom be an open creative space parallel to the workplace (and improve team work).</p> <p>The Archetecture and Drafting Programs can not grow do to insuficent facilities. PC 304, 306 and 309 need to be redesigned to meet industry, educational and student needs.</p>
3.	Motion to articulate with surrounding high schools by Dr. Richard Fernandes. Unanimously agreed.
4.	Motion to articulate with all public and private universities, especially CSU and the UC by Dr. Richard Fernandes. Unanimously agreed
5.	Presently, most Engineering students do not take Drafting 101 which is required for most Engineering programs at the Universities, and is essential for survival. Arch 100 is a large class. It has 30% Architecture students, 30% Engineering students, 30% undecided and 10% artists. Architecture and Engineering classes should be mixed because they need to have knowledge about each other’s programs.

3. Are these Advisory Committee minutes on file with Academic Affairs?

YES NO

4. Vocational Funds

Source	Purpose	Amount
Perkins Title IC	Seven replacement PCs, updated memory of for	\$14,000

5. Labor Market Data 2010 – 2020

(California Employment Department Labor Market Information for Los Angeles, Orange, and Inland Empire Counties)

Occupation NOTE: all occupations listed need the skills captured by DDT certificates for employment	Soc Code	Employment Estimated LA, OC, IE	Employment Projected LA, OC, IE	Change LA, OC, IE
Architects	171011	3,500+ retiring Architects 1,930 570	3,570+ retiring Architects 1,930 570	2%+ retiring Architects 12.4% 0%
Construction Managers	119021	11,750 9,650 4870	12,580 10,590 5030	7.1% 9.7% 3.3%
Civil Engineering Tech	173022	1850 830 730	1990 970 770	7.6% 16.9% 5.5%
Environmental Engineers	172081	1100 660 200	1280 810 230	16.4% 22.7% 15%
Civil Engineers	172051	8,300 4,860 2570	9,170 6,080 2810	10.5% 25.1% 9.3%
Set & Exhibit Designers	271027	1,080 140 Not available	1,200 160 Not available	11.5% 20% Not available
Animation, Interactive Technology, & Video Graphics	271014	12910 1630 180	13980 1660 190	8.3% 1.3% 5.6%
Urban & Regional Planners	193051	1,440 560 530	1,660 690 610	15.3% 23.2% 16.1%
Cost Estimators	131051	5420 3120 2590	6230 3680 3020	14.9% 17.9% 16.6%
Construction & Bldg. Inspectors	474011	3070 1280	3430 1430	11.7% 20.3%

		1090	1210	11%
Engineering Managers	119041	7350	7830	6.5%
		4080	4380	7.4%
		1310	1320	.8%
Architectural & Civil Drafters	173011	5050	4880	-3.4%
		1840	1950	8%
		830	780	-6
Mechanical Engineers	172141	6,190	6,190	0%
		2,700	2,900	7.4%
		1030	1020	-1%
Landscape Architects	171012	Not available	Not available	Not available
		480	560	-16.7%
		160	160	0%
Interior Designers	271025	2,600	2,600	0%
		1,270	1,350	6.3%
		550	570	3.6%
Graphic Design	271024	14,460	15,130	4.6%
		5,060	5,320	5.1%
		1510	1510	0%
Commercial and Industrial Designers	271021	1,040	1,040	0%
		740	810	9.5%
		210	190	-9.5%
Mechanical Drafters	173013	1190	1190	0%
		710	710	0%
		370	340	-8%
Surveying and Mapping Technicians	173031	520	570	5.6%
		380	450	18.4%
		480	510	6.3%

6. Discuss demand for workers in this TOP code based on CA Employment Development Department Labor Market Information for Los Angeles County and Advisory Committee input. Describe the rationale for use of data regarding additional geographic areas.

Design and Drafting Technology (DDT) provides foundational knowledge, skills and abilities essential to many/most occupations representing an entire industry. The one or two-year educational goals accomplished at Citrus College (Certificates of Achievement, Associate Degree, and Transfer preparation) are important to immediate employment as well as employment along the education continuum (Bachelors, Masters and Doctorial Degrees).

In addition to the occupations specific to the civil infrastructure and building industry, it is noted that multiple occupations require Computer Aided Design and Computer Generated Imagery

technologies. The skills sets are developed through DDT coursework. The transfer level courses in DDT are a substantial contribution and asset to students completing an Associate Degree in a different major. The DDT program excels at creating synergy across multiple disciplines simultaneously and influencing all students to appreciate a well-designed solution vs. a rudimentary or utilitarian result. The many dimensions of arts and sciences are productively blended in the DDT program.

CORE INDICATORS

Indicator	2009-10 (Actual)	2010-11 (Actual)	2011-12 (Actual)	2012-13 (Proposed)	2013-14 (Planning)
1. Technical Skill Attainment	100.00	90.00	91.49	91.30	90.70
2. Credential, Certificate, or Degree	85.71	85.00	100.00	92.00	100.00
3. Persistence or Transfer	89.19	87.50	100.00	91.30	95.35
4. Placement	75.00	81.82	71.43	57.14	66.67
5. Nontraditional Participation	18.92	17.50	19.15	23.91	27.91
6. Nontraditional Completion	18.75	19.05	30.77	20.00	18.52

Total Count is 10 or Greater

Total Count is Less Than 10

CITRUS COLLEGE Negotiated Level	2009-10	2010-11	2011-12	2012-13	2013-14
1. Technical Skill Attainment	92.46%	87.93%	88.81%	88.82%	87.27%
2. Credential, Certificate, or Degree	66.13%	78.95%	82.05%	80.93%	81.50%
3. Persistence or Transfer	82.18%	83.62%	85.96%	85.86%	86.50%
4. Placement	79.86%	80.33%	82.21%	81.48%	76.97%
5. Nontraditional Participation	12.58%	19.05%	20.37%	22.08%	22.60%
6. Nontraditional Completion	12.02%	19.72%	22.10%	25.00%	26.50%