

Construction Technology Program Review

2012-2013

1. Program/Department Description

1A. Description

Students in the Construction Technology (CT) program will develop the knowledge-base necessary to be employable in the construction industry. Subjects will include the critical evaluation of established building standards including codes, architectural design and project management. The educational outcomes will include the ability to identify code-compliant construction, interpret legal requirements, the use of technical vocabulary, analysis of blueprints and specifications, and examination of project sequence.

The CT program has two options; Building Inspection and Construction Management. The Building Inspection option has an emphasis on code interpretation and project design. The Construction Management option has an emphasis on business management and project supervision. Students can enroll into an individual class in order to develop a specific skill set, or complete a one-year vocational Certificate of Achievement degree, or complete a two-year Associate of Science degree, or prepare for transfer to a university-level Bachelor of Science program. CT students are prepared for many different construction-related positions such as self-employed contractors, building inspection, project designers, and various levels of supervision. The CT program provides many different construction-related courses to serve a wide range of student need.

Degrees/Certificates

Program's courses are designed to articulate to UC and CSU for transfer students.

Associates in Science Degree

Certificate of Achievement – Construction Technology (Building Inspection Option, Construction Management Option)

Proficiency Award – Construction Technology – Electrician Trainee

1B. 2012-2013 Estimated Costs (Certificate of Achievement ONLY)

Required for Gainful Employment regulations.

	Cost
Enrollment Fees	\$1380
Books/Supplies	\$600
Total	\$1980

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1C. Criteria Used for Admission

No special requirements or prerequisites for admission. Standard math/English assessments for Ventura College students seeking Associate-level degrees.

1D. College Vision

Ventura College will be a model community college known for enhancing the lives and economic futures of its students and the community.

1E. College Mission

Ventura College, one of the oldest comprehensive community colleges in California, provides a positive and accessible learning environment that is responsive to the needs of a highly diverse student body through a varied selection of disciplines, learning approaches and teaching methods including traditional classroom instruction, distance education, experiential learning, and co-curricular activities. It offers courses in basic skills; programs for students seeking an associate degree, certificate or license for job placement and advancement; curricula for students planning to transfer; and training programs to meet worker and employee needs. It is a leader in providing instruction and support for students with disabilities. With its commitment to workforce development in support of the State and region's economic viability, Ventura College takes pride in creating transfer, career technical and continuing education opportunities that promote success, develop students to their full potential, create lifelong learners, enhance personal growth and life enrichment and foster positive values for successful living and membership in a multicultural society. The College is committed to continual assessment of learning outcomes in order to maintain high quality courses and programs. Originally landscaped to be an arboretum, the College has a beautiful, park-like campus that serves as a vital community resource.

1F. College Core Commitments

Ventura College is dedicated to following a set of enduring Core Commitments that shall guide it through changing times and give rise to its Vision, Mission and Goals.

- Student Success
- Respect
- Integrity
- Quality
- Collegiality
- Access
- Innovation
- Diversity
- Service
- Collaboration
- Sustainability
- Continuous Improvement

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1G. Program/Department Significant Events (Strengths and Successes)

The Ventura College Construction Technology program was established in 1971 in conjunction with the local Unions, apprenticeship programs, and other building industry organizations as a means to help educate and train construction personnel in the central California coastal region. It is a vocational training program designed to prepare students to be capable of supervising and managing construction projects.

Our CT program is the only construction training program in Ventura County, and the only one of any significant size between Los Angeles and San Luis Obispo. Our program has high visibility in the community and within the industry. Our CT program is closely associated with many community and national organizations such as American General Contractors (AGC), International Code Council (ICC), Ventura County Contractor's Association (VCCA), the National Association of Women in Construction (NAWIC), and the American Society of Home Inspectors (ASHI). Our CT program has a large and active Advisory Committee in the form of the local ICC Chapter. The local ICC Chapter helped found the program forty years ago and many Chapter members have been and are currently p/t instructors.

K. Organizational Structure

President: Robin Calote

Executive Vice President: Ramiro Sanchez

Dean: Kathleen Schrader

Department Chair: Casey Mansfield

Instructors and Staff

Name	Casey Mansfield
Classification	Professor
Year Hired	1991
Years of Work-Related Experience	20 yrs industry experience, prior to teaching
Degrees/Credentials	B.A., M.A.; Industrial Education

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2. Performance Expectations

2A. Student Learning Outcomes

2A1. **2012-2013** - Institutional Student Learning Outcomes

1. Communication - written, oral and visual
2. Reasoning - scientific and quantitative
3. Critical thinking and problem solving
4. Information literacy
5. Personal/community awareness and academic/career responsibilities

2A2. **2012-2013** - Program Level Student Learning Outcomes *For programs/departments offering degrees and/or certificates*

1. Estimate construction costs
2. Interpret blueprints and specifications
3. Schedule the proper sequence of construction activities
4. Understand office operations and field operations
5. Understand building code requirements

2A3. **2012-2013** - Course Level Student Learning Outcomes

Attached to program review (See appendices).

2B. **2012-2013** Student SUCCESS Outcomes

1. The program will try to increase its retention rate from the average of the **program's** prior three-year retention rate. The retention rate is the number of students who finish a term with any grade other than W or DR divided by the number of students at census.
2. The program will try to increase its retention rate from the average of the **college's** prior three-year retention rate. The retention rate is the number of students who finish a term with any grade other than W or DR divided by the number of students at census.
3. The program will try to increase the student success rates from the average of the **program's** prior three-year success rates. The student success rate is the percentage of students who receive a grade of c or better.

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4. The program will try to increase the student success rates from the average of the **college's** prior three-year success rates. The student success rate is the percentage of students who receive a grade of C or better.
5. The program will encourage students to complete the program earning certificates and/or degrees.

2C. 2012-2013 Program OPERATING Outcomes

1. The program will try to maintain WSCH/FTEF ratios above the goal set by the district.
2. Inventory of instructional equipment is functional, current, and otherwise adequate to maintain a quality-learning environment. Inventory of all equipment over \$200 will be maintained and a replacement schedule will be developed.
3. The program will continue to improve its curriculum. The program should review curriculum to assure that student educational needs are being met. The review of curriculum is to be guided by the course-level and program-level SLO evaluation process.

2D. Mapping of Student Learning Outcomes - Refer to TracDat

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3. Operating Information

3A. Productivity Terminology Table

Sections	A credit or non-credit class. Does not include not-for-credit classes (community education).
Census	Number of students enrolled at census (typically the 4 th week of class for fall and spring).
FTES	Full Time Equivalent Students A student in the classroom 15 hours/week for 35 weeks (or two semesters) = 525 student contact hours. 525 student contact hours = 1 FTES. Example: 400 student contact hours = $400/525 = 0.762$ FTES. The State apportionment process and District allocation model both use FTES as the primary funding criterion.
FTEF	Full Time Equivalent Faculty A faculty member teaching 15 units for two semesters (30 units for the year) = 1 FTE. Example: a 6 unit assignment = $6/30 = 0.20$ FTEF (annual). The college also computes semester FTEF by changing the denominator to 15 units. However, in the program review data, all FTE is annual. FTEF includes both Full-Time Faculty and Part-Time Faculty. FTEF in this program review includes faculty assigned to teach extra large sections (XL Faculty). This deviates from the prior practice of not including these assignments as part of FTEF. However, it is necessary to account for these assignments to properly represent faculty productivity and associated costs.
Cross Listed FTEF	FTEF is assigned to all faculty teaching cross-listed sections. The FTEF assignment is proportional to the number of students enrolled at census. This deviates from the practice of assigning load only to the primary section. It is necessary to account for these cross-listed assignments to properly represent faculty productivity and associated costs.
XL FTE	Extra Large FTE: This is the calculated assignment for faculty assigned to extra large sections (greater than 60 census enrollments).The current practice is not to assign FTE. Example: if census>60, 50% of the section FTE assignment for each additional group of 25 (additional tiers).
WSCH	Weekly Student Contact Hours The term "WSCH" is used as a total for weekly student contact hours AND as the ratio of the total WSCH divided by assigned FTEF. Example: 20 sections of 40 students at census enrolled for 3 hours per week taught by 4.00 FTEF faculty. $(20 \times 40 \times 3) = 2,400$ WSCH / 4.00 FTEF = 600 WSCH/FTEF.
WSCH to FTES	Using the example above: $2,400$ WSCH x 35 weeks = 84,000 student contact hours = $84,000 / 525 = 160$ FTES (see FTES definition). Simplified Formulas: $FTES = WSCH/15$ or $WSCH = FTES \times 15$
District Goal	Program WSCH ratio goal. $WSCH/FTEF$ The District goal was set in 2006 to recognize the differences in program productivity.

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3B: Student Success Terminology

Census	Number of students enrolled at Census (typically the 4 th week of class for fall and spring). Census enrollment is used to compute WSCH and FTES for funding purposes.
Retain	Students completing the class with any grade other than W or DR divided by Census Example: 40 students enrolled, 5 students dropped prior to census, 35 students were enrolled at census, 25 students completed the class with a grade other than W or DR: Retention Rate = $25/35 = 71\%$
Success	Students completing the class with grades A, B, C, CR or P divided by Census Excludes students with grades D, F, or NC.

Program specific data was provided in Section 3 for all programs last year. This year, please refer to the data sources available at

http://www.venturacollege.edu/faculty_staff/academic_resources/program_review.shtml

In addition, the 2011-2012 program review documents will provide examples of last year's data and interpretations.

3C: 2012 - 2013 Please provide program interpretation for the following:

3C1: Interpretation of the Program Budget Information

The Construction Technology program is a low-cost and low-overhead program. One full-time instructor teaches classes, schedules classes and supervises the part-time faculty. The program is lecture based, so there are few material and equipment costs.

Per Table 3C1a "Program Expenses", the instructional cost for the CT program averages about \$170,000 per year.

Per Table 3C4b "WSCH by Subject Course", the CT program generates about 54 FTES per year.

However, Table 3C4a "WSCH by Subject Year", indicates 58% of the CT classes offered during FY12 were cross-listed with Architecture and/or Drafting. Because census is reported by section number, CT gets credit only for the CT registered students. By combining the total number of students enrolled, the CT program actually generates about 62 FTES, worth approximately \$280,000 in college revenue.

Because infrastructure costs would be the same with or without the CT program, and because the CT program has no other expenses, it is obvious this is a profitable program that also happens to serve an important specialized training need in the community.

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Per Table 3C1a “Program Expenses”, the Student Hourly cost of \$1,410 for FY12 should be charged to the Agriculture Program. The student hourly support referenced in Table 3C1a is used to help maintain the Ag facilities and grounds and is not part of the CT program.

Per Table 3C1a “Program Expenses”, the Services cost of \$1,496 for FY12 should be charged to Architecture. The services represent equipment contracts for maintenance and repair of computer-related equipment used in the Architecture program.

3C2: Interpretation of the Program Inventory Information

Table 3C2a “Civil & Construction Management 095700” is the section associated with the Ventura College Construction Technology program.

Inventory: Civil & Construction Mgmt 095700		Org	Fund	Date	Age	Cost	Perm	Tag#	Serial #
1. #92857 Tru Pulse 360 w/Bluetooth	Forestry Supplier	37010	121	2/10/2011	1	1,835	N00022281	038908	
2. Vostro 3750 Laptop Quote 585623505	Dell Computer	37010	121	6/22/2011	1	1,171			
3. Model #26416350/Cat Page #687	Rutland Tool	37010	121	6/1/2010	2	1,939	N00022092	888180510	
4. Shipping	Rutland Tool	37010	121	6/1/2010	2	1,939			
5. Shipping	Rutland Tool	37010	121	6/1/2010	2	297			
6. Club Car Electric Utility Vehicle	Power Machinery	37010	121	6/1/2010	2	9,740	N00022093	JR1044-144204	
7. Model #26416350/Cat Page #687	Rutland Tool	37010	121	6/1/2010	2	297	N00022092	888180510	
8. Dimension SST 1200es 3D printer	Paton Group	37010	121	4/14/2009	3	1,073	N00018799	P10186	
9. Dimension SST 1200es 3D printer	Paton Group	37010	121	4/14/2009	3	700	N00018799	P10186	
10. SST Cleaning Station	Paton Group	37010	121	4/14/2009	3	3,897	unknown		
11. SST Cleaning Station	Paton Group	37010	121	4/14/2009	3	3,218	unknown		
12. SST Cleaning Station	Paton Group	37010	121	4/14/2009	3	1,073	unknown		
13. SST Cleaning Station	Paton Group	37010	121	4/14/2009	3	700	unknown		
14. Shipping	Brodhead Garret	37010	121	3/26/2009	3	1,040			
15. Shipping	Brodhead Garret	37010	121	3/26/2009	3	307			
16. Shipping	Paton Group	37010	121	4/14/2009	3	700			
17. 36-715081 Delta 10" Table Saw	Brodhead Garret	37010	121	3/26/2009	3	307	N00018760	302303	
18. Dimension SST 1200es 3D printer	Paton Group	37010	121	4/14/2009	3	3,897	N00018799	P10186	
19. Shipping	Paton Group	37010	121	4/14/2009	3	3,897			
20. Shipping	Paton Group	37010	121	4/14/2009	3	3,218			
21. Shipping	Paton Group	37010	121	4/14/2009	3	1,073			
22. Dimension SST 1200es 3D printer	Paton Group	37010	121	4/14/2009	3	3,218	N00018799	P10186	
23. Dimension 1200 stand	Paton Group	37010	121	4/14/2009	3	3,897			
24. Dimension 1200 stand	Paton Group	37010	121	4/14/2009	3	1,073			
25. Dimension 1200 stand	Paton Group	37010	121	4/14/2009	3	700			
26. 36-715081 Delta 10" Table Saw	Brodhead Garret	37010	121	3/26/2009	3	1,040	N00018760	302303	
27. Dimension 1200 stand	Paton Group	37010	121	4/14/2009	3	3,218			
Subtotal Inventory for Civil & Construction Mgmt						55,458			
Revised Subtotal						13,053			

Of the items listed under “Civil & Construction Management 095700”, there are many errors:

- Line items 3, 4, 5, 7 from the Rutland Tool company should be assigned to the Manufacturing program. The Model #26416350 item is a 14” cold-metal saw used in the machine shop.
- Line items 8, 9, 10, 11, 12, 13, 18, 19, 20, 21, 22, 23, 24, 25, 27 from the Paton Group should be assigned to the Architecture/Drafting program. The Dimension SST Printers and related items, are 3D design printers used for proto-type architectural modeling.
- Line items 17, 26 Delta Table are duplicate entries.

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The items listed under “Construction Crafts Technology 095200” are not associated with the VC Construction Technology program. These items were part of a Contract Ed Workforce Investment Act (WIA) grant about 10 years ago. The current whereabouts of the equipment is unknown to the CT program.

3C3: Interpretation of the Program Productivity Information

Per Table 3C3a “Program Productivity”, during FY12 (excluding x-listed courses) the CT program was at 85% of the District Goal, which is about equal to the 3-year average of 88%.

WSCH by Subject Year Course - CT (without X-listed Courses)												
Subject	FY	Course Title	Sections	Census	FTEs	WSCH	FTEF	FT FTE	PT FTE	D Goal	CRatio	CL
CTV12	FY12	Adv Blueprnt Read	2	22	2.32	35	0.15	0.08	0.07	450	236	2
CTV20	FY12	Blueprint Read	2	25	2.50	38	0.08	0.04	0.04	450	458	2
CTV30	FY12	Shop Woodworking	2	53	10.60	159	0.30	0.00	0.30	450	530	0
CTV43	FY12	Elec Code Cert Prep	1	27	1.70	25	0.07	0.00	0.07	450	382	0
CTV50	FY12	Contractor Lic Prep	2	39	3.90	59	0.20	0.00	0.20	450	293	0
CTV52	FY12	Property Inspection	1	24	2.40	36	0.10	0.00	0.10	450	360	0
CTV58	FY12	Internat Res Code	1	14	1.40	21	0.09	0.09	0.00	450	240	1
CTV59	FY12	Internat Build Code	2	33	3.30	50	0.14	0.06	0.09	450	346	2
CTV64	FY12	Build Const: Materials	2	39	3.90	59	0.14	0.14	0.00	450	407	2
CTV66	FY12	National Elec Code	2	62	6.20	93	0.20	0.00	0.20	450	465	0
CTV67	FY12	Build Access Regs	1	13	0.82	12	0.05	0.00	0.05	450	226	1
CTV70	FY12	CA Green Build Code	1	17	1.70	26	0.10	0.00	0.10	450	255	0
CTV71	FY12	Uniform Plumb Code	1	19	1.90	29	0.10	0.00	0.10	450	285	0
CTV72	FY12	Uniform Mech Code	1	17	1.70	26	0.10	0.00	0.10	450	255	0
CTV75	FY12	Elec/Plumb/Mech Sys	1	26	2.60	39	0.08	0.00	0.08	450	480	1
CTV76	FY12	Const Job Site Mgmt	1	24	2.40	36	0.10	0.00	0.10	450	360	0
CTV77	FY12	Const Business Mgmt	1	19	1.90	29	0.10	0.00	0.10	450	285	0
CTV95	FY12	Const Tech Intern I	4	7	0.83	12	0.00	0.00	0.00	450	0	4
CTV96	FY12	Const Tech Intern II	3	15	1.87	28	0.00	0.00	0.00	450	0	3
FY12 Total for CT			31	495	53.93	809	2.11	0.40	1.71	450	384	18
C Ratio / D Goal = 85%						Percent Cross Listed Courses = 58%						

However this statistic is incorrect when x-listed courses are calculated into the student totals. When x-listed courses are included, the actual productivity value is 98%.

For example; CT V59 International Building Code is listed “same as” in the college catalog with ARCH V59 International Building Code. Both construction students and architecture students are interested in learning building codes. Because it is the same class, these two classes are taught together as one.

When the x-listed courses are added to the primary CT data, it becomes obvious that the CT program is much more efficient than appears at first glance.

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WSCH by Subject Year Course - CT (with X-listed Courses)												
Subject	FY	Course Title	Sections	Census	FTEs	WSCH	FTEF	FT FTE	PT FTE	D Goal	CRatio	CL
CTV12	FY12	Adv Blueprnt Read	2	22	2.32	35	0.15	0.08	0.07	450	236	2
ARCHV12	FY12	Adv Blueprnt Read	0	8	0.85	13	0.00	0.00	0.00	450	243	0
CTV20	FY12	Blueprint Read	2	25	2.50	38	0.08	0.04	0.04	450	458	2
ARCHV11	FY12	Blueprint Read	0	27	2.70	41	0.00	0.00	0.00	450	442	0
DRFTV02	FY12	Blueprnt Read	0	8	0.80	12	0.00	0.00	0.00	450	455	0
CTV30	FY12	Shop Woodworking	2	53	10.60	159	0.30	0.00	0.30	450	530	0
CTV43	FY12	Elec Code Cert Prep	1	27	1.70	25	0.07	0.00	0.07	450	382	0
CTV50	FY12	Contractor Lic Prep	2	39	3.90	59	0.20	0.00	0.20	450	293	0
CTV52	FY12	Property Inspection	1	24	2.40	36	0.10	0.00	0.10	450	360	0
CTV58	FY12	Internat Res Code	1	14	1.40	21	0.09	0.09	0.00	450	240	1
ARCHV58	FY12	Internat Res Code	0	2	0.20	3	0.00	0.00	0.00	450	240	0
CTV59	FY12	Internat Build Code	2	33	3.30	50	0.14	0.06	0.09	450	346	2
ARCHV59	FY12	Internat Build Code	0	12	1.20	18	0.00	0.00	0.00	450	316	0
CTV64	FY12	Build Const: Materials	2	39	3.90	59	0.14	0.14	0.00	450	407	2
ARCHV64	FY12	Build Const: Materials	0	17	1.70	26	0.00	0.00	0.00	450	453	0
CTV66	FY12	National Elec Code	2	62	6.20	93	0.20	0.00	0.20	450	465	0
CTV67	FY12	Build Access Regs	1	13	0.82	12	0.05	0.00	0.05	450	226	1
ARCHV67	FY12	Build Access Regs	0	3	0.19	3	0.00	0.00	0.00	450	226	0
CTV70	FY12	CA Green Build Code	1	17	1.70	26	0.10	0.00	0.10	450	255	0
CTV71	FY12	Uniform Plumb Code	1	19	1.90	29	0.10	0.00	0.10	450	285	0
CTV72	FY12	Uniform Mech Code	1	17	1.70	26	0.10	0.00	0.10	450	255	0
CTV75	FY12	Elec/Plumb/Mech Sys	1	26	2.60	39	0.08	0.00	0.08	450	480	1
ARCHV75	FY12	Elec/Plumb/Mech Sys	0	6	0.60	9	0.00	0.00	0.00	450	480	0
CTV76	FY12	Const Job Site Mgmt	1	24	2.40	36	0.10	0.00	0.10	450	360	0
CTV77	FY12	Const Business Mgmt	1	19	1.90	29	0.10	0.00	0.10	450	285	0
CTV95	FY12	Const Tech Intern I	4	7	0.83	12	0.00	0.00	0.00	450	0	4
CTV96	FY12	Const Tech Intern II	3	15	1.87	28	0.00	0.00	0.00	450	0	3
FY12 Total for CT			31	578	62.17	934	2.11	0.40	1.71	450	442	18
Program Ratio = 934 WSCH / 2.11 FTEF = 442						C Ratio / D Goal = 442/450 = 98%						

Per Table 3C3a "Program Productivity", during FY12 (including x-listed courses) the CT program was at 98% of the District Goal. Cross-listed courses do not increase the number of actual classes, although they do increase the number of CRN's. By combining two or three CRN's into one class, the combined class is larger and more efficient.

For example; during Spring 2012, CT V59 had 17 students and ARCH V59 had 11. Both classes look statistically small, but since they are taught together we had an actual class size of 28. Because census is reported by section number, CT gets credit only for the CT registered students, and ARCH gets credit for the ARCH registered students. Thus both programs appear to have a small average class size, low WSCH, and low productivity ratings. In reality, because of x-listing many of our CT classes are full with a waitlist.

Also interestingly, compared to the 3-year average, during FY12 there was a 12% decrease in faculty load. However, during this time our Weekly Student Contact Hours (WSCH) remained comparatively steady. While economic issues have contracted the CT program, we are still serving approximately the same number of students.

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3C4: Interpretation of the Program Course Productivity Information

The Average Section Size per Table 3C4a “WSCH by Subject” is again misleading. According to Table 3C4a the average class size in the CT program is about 16. In reality, our average class size is 23. The difference is because per Table 3C4a, 58% of the CT classes are cross-listed with other disciplines, such as Architecture and Drafting.

WSCH by Subject Year Course - CT (with X-listed Courses, minus Internship Courses)

Subject	FY	Course Title	Sections	Census
CTV12	FY12	Adv Blueprnt Read	2	22
ARCHV12	FY12	Adv Blueprnt Read	0	8
CTV20	FY12	Blueprint Read	2	25
ARCHV11	FY12	Blueprint Read	0	27
DRFTV02	FY12	Blueprnt Read	0	8
CTV30	FY12	Shop Woodworking	2	53
CTV43	FY12	Elec Code Cert Prep	1	27
CTV50	FY12	Contractor Lic Prep	2	39
CTV52	FY12	Property Inspection	1	24
CTV58	FY12	Internat Res Code	1	14
ARCHV58	FY12	Internat Res Code	0	2
CTV59	FY12	Internat Build Code	2	33
ARCHV59	FY12	Internat Build Code	0	12
CTV64	FY12	Build Const: Materials	2	39
ARCHV64	FY12	Build Const: Materials	0	17
CTV66	FY12	National Elec Code	2	62
CTV67	FY12	Build Access Regs	1	13
ARCHV67	FY12	Build Access Regs	0	3
CTV70	FY12	CA Green Build Code	1	17
CTV71	FY12	Uniform Plumb Code	1	19
CTV72	FY12	Uniform Mech Code	1	17
CTV75	FY12	Elec/Plumb/Mech Sys	1	26
ARCHV75	FY12	Elec/Plumb/Mech Sys	0	6
CTV76	FY12	Const Job Site Mgmt	1	24
CTV77	FY12	Const Business Mgmt	1	19
FY12 Total for CT			24	556
Average Section Size = 556 / 24 = 23				

During FY12 there were 556 students enrolled into 24 courses, plus 22 students enrolled into the Internship (Work Experience) program. In total, during FY12 the CT program served 578 students.

Because of problems associated with calculating data from cross-listed courses, the CT program does not rate as high as it should. When all elements are included, the CT program is actually a very viable and productive program that meets the District Productivity Goals.

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3C5: Interpretation of Program Retention, Student Success, and Grade Distribution

Per Table 3C5 “Student Success”, the CT Student Completion rate is exceptionally high at 92%, compared to the college average of 85%. The CT Student Success rate is also exceptionally high at 83%, compared to the college average of 65%. Our completion and success rates are high because of the type of students we attract.

Typically, our student pool consists of career minded individuals who are willing to make significant sacrifices to be in school. Even after obtaining their employment goals, many continue as evening students in an effort to upgrade their knowledge and abilities.

Per Table 3C5 “Student Success”, the Grade Distribution data shows a disproportionate percentage of A grades compared to the college average. Again, this is a result of the quality and dedication of our students. Because the majority of our students are older and more experienced, they understand the benefits of education. These students are focused on success and often excel at a higher rate than seen in other college programs. As a result, many of our students deserve and earn A grades. Our B, C, D, F, W grades are in more in line with college averages.

Another aspect of our student success centers on the quality of our instructors. Each part-time instructor is chosen for their industry specialty. Each semester depending upon the program course schedule, a different set of instructors is used. Each instructor must possess the licensing, expertise and personality necessary to teach their particular subject. This provides the students with training from a broad mix of talented industry professionals.

3C6: Interpretation of the Program Completion Information

Per Table 3C6 “Student Awards”, the CT program has issued 122 certificates and degrees over the past 4 years. Our 3-year average is 29 per year, and during FY12 we issued 34. These numbers are for Certificate of Achievement and Associate Degrees, and do not include the uncalculated number of Department Proficiency Awards.

Although certificates and degrees are not often required for construction-related employment, educational success is always viewed as preferable in employee selection. For that reason the CT faculty encourages our students to complete their education, thus making themselves more competitive in the work place.

In addition to college degrees, our students often pursue industry certifications and industry licensing. The industry licensing pass rate from our CT students is about 80% for their first attempt, and 95% for their second attempt. We have excellent license preparation success, especially compared to national pass rates ranging as low as 22%.

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Some of our students choose to transfer to a University-level Bachelor of Science program in Construction Management or Construction Engineering. Because there are only a few B.S. degree construction programs in California, our program is considered an important feeder to Cal Poly - San Luis Obispo, Cal Poly - Pomona, CSU Fresno, CSU Long Beach and CSU Chico. The CT program at Ventura College has articulation agreements with each of these schools

3C7: Interpretation of the Program Demographic Information

Per Table 3C7 "Student Demographics", our CT students are primarily male and have an average age of 39. These are typically working adults seeking advanced job-training skills or continuing education. CT student goals range from entry-level positions to senior management. What they share in common is the desire to improve their employment and career opportunities. Many attend Ventura College because of the need to regularly renew their licenses and industry certifications. Because we are the only provider of this type of vocational education in Ventura County, we have a steady supply of students.

In an effort to expand our prospective student population pool, we need to look towards recruiting women and younger students. Although there are many excellent opportunities for women, such as construction managers and building inspectors, few women seem to view construction as a viable career path. Younger students often go straight to work in the industry and discount the need for education until they have been working for a few years. If they began their education sooner, they would advance much faster. One after another, our typical student will express they wished they had started their education sooner.

4. Performance Assessment

4A1: 2012-2013 Institutional Level Student Learning Outcomes

Institutional Level Student Learning Outcome 1	Performance Indicators
Communication	80% of students will reach a satisfactory or higher-level grade according to the institutional rubric for communication
Operating Information	
This ISLO will be assessed during the 2012-13 academic year	
Analysis – Assessment	
This ISLO will be assessed through a written exam	

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Institutional Level Student Learning Outcome 2	Performance Indicators
Reasoning – Scientific and Quantitative	This ISLO will not be assessed by Construction Technology
Operating Information	
Analysis – Assessment	

Institutional Level Student Learning Outcome 3	Performance Indicators
Critical Thinking and problem solving	80% of students will reach a satisfactory or higher-level grade according to the institutional rubric for critical thinking and problem solving
Operating Information	
This ISLO will be assessed during the 2013-14 academic year	
Analysis – Assessment	
This ISLO will be assessed through a written exam	

Institutional Level Student Learning Outcome 4	Performance Indicators
Information Literacy	This ISLO will not be assessed by Construction Technology
Operating Information	
Analysis – Assessment	

Institutional Level Student Learning Outcome 5	Performance Indicators
Personal/community awareness and academic / career responsibilities	This ISLO will not be assessed by Construction Technology
Operating Information	
Analysis – Assessment	

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4A2: 2012-2013 Program Level Student Learning Outcomes - For programs/departments offering degrees and/or certificates

Program-Level Student Learning Outcome 1	Performance Indicators
Estimate construction costs	The ability to estimate construction costs is basic to an understanding of construction management. This PSLO is introduced in 11 CT courses, practiced in 2 courses and mastered in 1 course.
Operating Information	
In CTV79 cost estimating is a mastered subject. Spring semester 2012, 83% of the students enrolled in CTV79 passed with a C grade or better. The ability to accurately estimate job costs was evaluated through the ability to read blueprint drawings and project specifications, and then develop proper cost analysis through class work, homework, quizzes and exams.	
Analysis – Assessment	
In the course evaluated, students met the performance goals. Job cost estimating is taught and assessed as part of the overall curriculum in many of the CT courses.	

Program-Level Student Learning Outcome 2	Performance Indicators
Interpret blueprints and specifications	The ability to interpret construction blueprints and specifications is essential to success in the construction industry. This PSLO is introduced in 12 CT courses, practiced in 7 courses and mastered in 1 course.
Operating Information	
In CTV12 blueprint reading is a mastered subject. Spring semester 2012, 79% of the students enrolled in CTV12 passed with a C grade or better. The ability to properly read blueprints and specifications was evaluated through class work, homework, quizzes and exams.	
Analysis – Assessment	
In the one course evaluated, students met the performance goals. Reading construction blueprints and job specifications is taught and assessed as part of the overall curriculum in many of the CT courses.	

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Program-Level Student Learning Outcome 3	Performance Indicators
Schedule the proper sequence of construction activities	The ability to understand and coordinate the sequence of construction activities is important to success in the construction industry. This PSLO is introduced in 7 CT courses, practiced in 11 courses and mastered in 1 course.
Operating Information	
In CTV64 the proper sequence of construction activities is a mastered subject. Spring semester 2012, 81% of the students enrolled in CTV64 passed with a C grade or better. The ability to schedule workers and arrange material deliveries was evaluated through class work, homework, quizzes and exams.	
Analysis – Assessment	
In the course evaluated, students met the performance goals. Scheduling the proper sequence of construction activities is taught and assessed as part of the overall curriculum in many of the CT courses.	

Program-Level Student Learning Outcome 4	Performance Indicators
Understand office operations and field operations	Project management is the ability to coordinate office and jobsite operations. They are different skill sets but equally vital to the success of the project. This PSLO is introduced in 3 CT courses, practiced in 9 courses and mastered in 1 course.
Operating Information	
In CTV77 the understanding of office and field responsibilities is a mastered subject. Spring semester 2012, 89% of the students enrolled in CTV77 passed with a C grade or better. The ability to understand office and field operations was evaluated through class work, homework, quizzes and exams.	
Analysis – Assessment	
In the course evaluated, students met the performance goals. Understanding office operations and field operations is taught and assessed as part of the overall curriculum in many of the CT courses.	

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Program-Level Student Learning Outcome 5	Performance Indicators
Understand building code requirements	The ability to understand and interpret building code requirements is essential to the success of any construction project. This PSLO is introduced in 7 CT courses, practiced in 12 courses and mastered in 4 courses.
Operating Information	
In CTV59 the understanding of building code requirements is a mastered subject. Spring semester 2012, 77% of the students enrolled in CTV59 passed with a C grade or better. The ability to understand building codes was evaluated through class work, homework, quizzes and exams.	
Analysis – Assessment	
In the course evaluated, students met the performance goals. Understanding building codes is taught and assessed as part of the overall curriculum in many of the CT courses.	

4A3: 2012-2013 Course Level Student Learning Outcomes - Refer to TracDat

4B: 2012-2013 Student Success Outcomes

Student Success Outcome 1	Performance Indicators
The program will try to increase its retention rate from the average of the program's prior three-year retention rate. The retention rate is the number of students who finish a term with any grade other than W or DR divided by the number of students at census.	The program will try to increase the retention rate by 2% or more above the average of the program's retention rate for the prior three years.
Operating Information	
CT's three- year retention rate was 92%. CT's FY12 retention rate was 90%.	
Analysis – Assessment	
In FY 12, CT's retention rate was 2% lower than the prior three-year average. 92% is a difficult number to top, year- over- year. However better communication and interaction with the students should keep our retention rate high.	

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Student Success Outcome 2	Performance Indicators
The program will try to increase its retention rate from the average of the college's prior three-year retention rate. The retention rate is the number of students who finish a term with any grade other than W or DR divided by the number of students at census.	The program will try to increase the retention rate by 2% or more above the average of the college retention rate for the prior three years.
Operating Information	
The College's three-year retention rate was 85%. The College's FY12 retention rate was 86%.	
Analysis – Assessment	
CT's FY12 retention rate was 7% higher than the College three-year average, and 6% higher than the College FY12 rate. It should be possible to continue to beat the College rate.	

Student Success Outcome 3	Performance Indicators
The program will try to increase the student success rates from the average of the program's prior three-year success rates. The student success rate is the percentage of students at census who receive a grade of C or better.	The program will try to increase the student success rate by 2% or more above the program's average student success rate for the prior three years.
Operating Information	
CT's three- year success rate was 82%. CT's FY12 success rate was 83%.	
Analysis – Assessment	
In FY 12, CT's success rate was 1% higher than the prior three-year average. An 80% success rate is a number we will continue to try to beat. Better communication and interaction with the students should keep our success rate high.	

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Student Success Outcome 4	Performance Indicators
The program will increase the student success rates from the average of the college's prior three-year success rates. The student success rate is the percentage of students at census who receive a grade of C or better.	The program student success will try to increase by 5% over the average of the college's student success rate for the prior three years.
Operating Information	
The College's three-year success rate was 65%. The College's FY12 success rate was 68%.	
Analysis – Assessment	
CT's FY12 success rate was 17% higher than the College three-year average, and 14% higher than the College FY12 rate. It should be possible to continue to beat the College rate.	

Student Success Outcome 5	Performance Indicators
Students will complete the program earning certificates and/or degrees.	Try to increase the number of students earning a certificate to a minimum of 20% of the number of students enrolled in second-year courses.
Operating Information	
CT students earned 122 certificates and degrees during the four years 2009-12.	
Analysis – Assessment	
122 certificates and degrees awarded over the past four years is a significant accomplishment. The faculty will continue to stress the importance of educational degrees and industry licensure as a means of competitive recognition and improved employment opportunities.	

4C. 2012-2013 Program Operating Outcomes

Program Operating Outcome 1	Performance Indicators
The program will maintain WSCH/FTEF above the goal set by the district.	The program will try to exceed the efficiency goal set by the District by 2%.
Operating Information	
The CT program has a 98% WSCH/FTEF rating compared to the goal set by the District.	
Analysis – Assessment	
Our average class size is about 23 and our classroom seats a maximum of 28. Compared to the facilities available, we are near capacity.	

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Program Operating Outcome 2	Performance Indicators
Inventory of instructional equipment is functional, current, and otherwise adequate to maintain a quality-learning environment. Inventory of all equipment over \$200 will be maintained and a replacement schedule will be developed.	A current inventory of all equipment in the program will be maintained. Equipment having a value over \$5000 will have a service contract. A schedule for service life and replacement of outdated equipment will reflect the total cost of ownership.
Operating Information	
Table 3C2a "Program Inventory", is inaccurate and needs to be revised.	
Analysis – Assessment	
The CT program is a lecture-based program with minor equipment needs. Most of the equipment on the current inventory list belongs to other programs. Any CT instructional equipment will be properly inventoried and maintained.	

Program Operating Outcome 3	Performance Indicators
The program will continue to improve its curriculum. The program should review curriculum to assure that student needs are being met.	The review of curriculum is guided by the course-level and program-level SLO evaluation process, and student success in meeting SLOs.
Operating Information	
The CT department assesses course-level and program-level SLOs to determine the effectiveness of instruction and to identify needed changes in curriculum.	
Analysis – Assessment	
Legislative and industry changes require adjustments in curriculum. As curriculum changes, SLO's must be reviewed and modified. SLO assessments highlight the success of teaching methodologies. Instruction methods must be adjusted in response to SLO assessments, if we are to maintain high retention and student success rates. This is an on-going cycle designed to improve the quality of the educational process.	

Construction Technology Program Review

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5. Findings

2012-2013 - FINDINGS

Finding 1

The Construction Technology program is low-cost and low-overhead. There is only one full-time instructor. The program is lecture based, so there are minimum material and equipment expenses.

Finding 2

Over the past 4 years there has been a 12% decrease in faculty load but the Weekly Student Contact Hours (WSCH) has held steady.

Finding 3

True class size and productivity is higher than reported. Actual program productivity is 98% of the District goal when x-listed courses are included with the CT data. A desirable objective is 100% or more of the District goal. Although this value is good, it still should be improved.

Finding 4

The CT Student Retention rate is 92%, compared to the college average of 85%. The CT Student Success rate is 83%, compared to the college average of 68%. Our retention and success rates are very good.

Finding 5

The CT program has issued 122 certificates and degrees over the past 4 years. Considering the small size of the program, this is a positive accomplishment.

Finding 6

The CT students are primarily male and have an average age of 39. In order to grow, we must find a way to recruit more women and younger students.

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6. Initiatives

6A: 2011-2012 - Initiatives

Initiative: Improve CT program productivity as compared to the District goal

Initiative ID: CT12-01

Links to Finding 3: Currently the CT program is meeting 85% of the District's productivity goal. The objective is to increase this number to 100% or more. One way to increase enrollment is to revise course scheduling in an effort to attract additional students. Another way is to modify scheduling in order to eliminate miscalculated data due to the reporting methods used with "same as" and "x-listed" courses. Another way is through student recruitment.

Benefits: Increasing student numbers without increasing the number of courses generates additional college revenue without increasing costs.

Request for Resources: None

Funding Sources

No new resources are required (use existing resources)	X
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Initiative: Improve CT curriculum to assure we are meeting the student's needs

Initiative ID: CT12-02

Links to Finding 4: The student retention and success rates for the CT program are very good, in fact significantly higher than the college average. In order to maintain high rates, we must regularly review and improve our curriculum and course offerings. State regulations and industry standards change frequently, so we must adjust our curriculum content accordingly.

Benefits: If we provide current, relevant curriculum we will attract and retain students. The success of the CT program is only as good as the instruction.

Request for Resources: None

Funding Sources

No new resources are required (use existing resources)	X
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Initiative: Recruit more women and younger students into the CT program

Initiative ID: CT12-03

Links to Finding 6: CT students are primarily male and have an average age of 39. Only 6% of our students are women. However the industry offers many excellent opportunities for women. Also, younger students would benefit by acquiring their education early-on as it would help them advance through the industry faster.

Benefits: If we can attract women and younger students, the program will grow and give us higher productivity rates.

Request for Resources: None

Funding Sources

No new resources are required (use existing resources)	X
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Construction Technology Program Review 2012-2013

2011 - 2012 FINAL Program Initiative Priority Ratings

Program	Finding Number	Category	Program Priority (R, H, M, L)	Division Priority (R,H,M,L)	Committee Priority (R, H, M, L)	College Priority (H, M, L)	Initiative ID	Initiative Title	Resource Description	Estimated Cost
CT	01	None	0	L			CT12-01	Improve productivity	Increase student transfers	None
CT	02	None	0	M			CT12-02	Improve curriculum	Review & update curriculum	None
CT	03	None	0	M			CT12-03	Recruit students	Work closely with area high schools	None

Construction Technology Program Review

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6B: **2012-2013** INITIATIVES

Initiative: Improve CT program productivity as compared to the District goal

Initiative ID: CT13-01

Links to Finding 3: When x-listed courses are add to the primary courses, the CT program is meeting 98% of the District's productivity goal. The objective is to increase this number to 100% or more. One way to increase enrollment is to revise course scheduling in an effort to attract additional students. Another way is through student recruitment.

Benefits: Increasing student numbers without increasing the number of courses generates additional college revenue without increasing costs.

Request for Resources: None

Funding Sources

No new resources are required (use existing resources)	X
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Initiative: Improve CT curriculum to assure we are meeting the student's needs

Initiative ID: CT13-02

Links to Finding 4: The student retention and success rates for the CT program are very good, in fact significantly higher than the college average. In order to maintain high rates, we must regularly review and improve our curriculum and course offerings. State regulations and industry standards change frequently, so we must adjust our curriculum content accordingly.

Benefits: If we provide current, relevant curriculum we will attract and retain students. The success of the CT program is only as good as the instruction.

Request for Resources: None

Funding Sources

No new resources are required (use existing resources)	X
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Construction Technology Program Review 2012-2013

Initiative: Recruit more women and younger students into the CT program

Initiative ID: CT13-03

Links to Finding 6: CT students are primarily male and have an average age of 39. Only 6% of our students are women. However the industry offers many excellent opportunities for women. Also, younger students would benefit by acquiring their education early-on as it would help them advance through the industry faster.

Benefits: If we can attract women and younger students, the program will grow and give us higher productivity rates.

Request for Resources: None

Funding Sources

No new resources are required (use existing resources)	X
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6C: 2012-2013 Program Initiative Priority Ratings

Program	Finding Number	Category	Program Priority (R, H, M, L)	Division Priority (R,H,M,L)	Committee Priority (R, H, M, L)	College Priority (H, M, L)	Initiative ID	Initiative Title	Resource Description	Estimated Cost
CT	01	None	M	L			CT13-01	Improve productivity	Increase student transfers	None
CT	02	None	H	M			CT13-02	Improve curriculum	Review & update curriculum	None
CT	03	None	L	M			CT13-03	Recruit students	Work closely with area high schools	None

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6D: PRIORITIZATIONS OF INITIATIVES WILL TAKE PLACE AT THE PROGRAM, DIVISION, COMMITTEE, AND COLLEGE LEVELS:

Program/Department Level Initiative Prioritization

All initiatives will first be prioritized by the program/department staff. Prioritize the initiatives using the **RHML** priority levels defined below.

Division Level Initiative Prioritization

The program initiatives within a division will be consolidated into division spreadsheets. The dean may include additional division-wide initiatives. All initiatives will then be prioritized using the **RHML** priority levels defined below.

Committee Level Initiative Prioritization

The division's spreadsheets will be prioritized by the appropriate college-wide committees (staffing, technology, equipment, facilities) using the **RHML** priority levels defined below.

College Level Initiative Prioritization

Dean's will present the consolidated prioritized initiatives to the College Planning Council. The College Planning Council will then prioritize the initiatives using the **RHML** priority levels defined below.

R: Required – mandated or unavoidable needs (litigation, contracts, unsafe to operate conditions, etc.).

H: High – approximately 1/3 of the total program/department/division's initiatives by resource category (personnel, equipment, etc.)

M: Medium – approximately 1/3 of the total program/department/division's initiatives by resource category (personnel, equipment, etc.)

L: Low – approximately 1/3 of the total program/department/division's initiatives by resource category (personnel, equipment, etc.)

Construction Technology Program Review

2012-2013

7. Process Assessment and Appeal

7A. Purpose of Process Assessment

The purpose of program review assessment is to evaluate the process for continual improvement. The process is required for accreditation and your input is very important to us as we strive to improve.

7B. **2012 - 2013** ASSESSMENT QUESTIONS

1. Did you complete the Program Review process last year, and if so, did you identify program initiatives?

Yes. During FY12 a Program Review was completed for the Construction Technology (CT) program. 3 initiatives were identified.

2a. Were the identified initiatives implemented?

3 initiatives were identified for FY12. None required funding. Each was implemented to some extent.

CT12-01 "Improve Productivity" was accomplished by properly tracking and reporting census. We are still under the District Goal and need to find additional ways to improve our ratings.

CT12-02 "Improve Curriculum" is a never-ending activity. We did update 7 courses through the Curriculum Committee process.

CT12-03 "Work Closely with Area High Schools" was accomplished through out-reach from the VC Counseling staff. Tech Prep funds were used to allow college counselors to visit area high schools.

2b. Did the initiatives make a difference?

Yes. Program Review helped us identify program short-comings and focus on improvements. The 3 initiatives identified are all on-going activities. Each year we will have to make new strides to improve these initiatives.

3. If you appealed or presented a minority opinion for the Program Review process last year, what was the result?

No appeals or minority opinions were presented.

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4. How have the changes in the Program Review process worked for your area?

Extra department meetings, discussion of SLO's and program goals, all help focus on program improvement issues. The Program Review process is designed to help identify program strength and weakness. Faculty collaboration and cooperation is required for improvement. The publication of program data helps faculty understand the relevant dynamics of the program. Program Review has worked well for the CT program.

5. How would you improve the Program Review process based on this experience?

The process works as it is intended. Perhaps Program Review could be conducted every three years, rather than annually.

7C. Appeals

After the program review process is complete, your program has the right to appeal the ranking of initiatives.

If you choose to appeal, please complete the appropriate form that explains and supports your position. Forms are located at the Program Review VC website.

The appeal will be handled at the next higher level of the program review process.

Construction Technology Program Review

2012-2013

Appendix

2012-2013 - **Course Level Student Learning Outcomes**

Student outcomes: At the end of the course, the student should be able to:	Assessment
<ul style="list-style-type: none"> • 1.1 <ul style="list-style-type: none"> ○ Read, retain, and apply published ideas 	Reading assignments Written homework
<ul style="list-style-type: none"> • 1.5 <ul style="list-style-type: none"> ○ Employ vocabulary of the subject studied 	Class discussion Exams
<ul style="list-style-type: none"> • 2.3 <ul style="list-style-type: none"> ○ Find and interpret relevant information 	Quizzes Midterm Final exam
<ul style="list-style-type: none"> • 2.5 <ul style="list-style-type: none"> ○ Utilize data to draw conclusions or to create new information 	Class discussion Group participation

CT Courses (w/ x-listed courses)

- CT V12 Advanced Blueprint Reading: Commercial/Industrial (Arch V12)
- CT V20 Blueprint Reading: Architectural/Construction (Drft V2B & Arch V11)
- CT V30 Shop Woodworking
- CT V37 Landscape Construction
- CT V43 Electrical Code Certification Preparation
- CT V44 Green Electrical Systems
- CT V46 Building Permit Technician
- CT V47 Building and Zoning Code Enforcement (CJ V47)
- CT V50 California Contractor License Preparation
- CT V52 Property Inspection
- CT V58 International Residential Code (Arch V58)
- CT V59 International Building Code (Arch V59)
- CT V60 Simplified Engineering for Building Construction (Arch V60)
- CT V62 Structural Masonry Construction
- CT V63 Reinforced Concrete Construction
- CT V64 Building Construction: Materials and Methods (Arch V64)
- CT V65 Structural Steel and Welding Construction (Wel V65)
- CT V66 National Electrical Code
- CT V67 Building Accessibility Regulations (Arch V67)
- CT V70 California Green Building and Energy Code
- CT V71 Uniform Plumbing Code
- CT V72 Uniform Mechanical Code
- CT V75 Intro. to Electrical, Plumbing and Mechanical Systems (Arch 75)
- CT V76 Construction Job Site Management
- CT V77 Construction Business Management
- CT V79 Construction Estimating
- CT V80 Construction Skills Training
- CT V95 Construction Technology Internship I
- CT V96 Construction Technology Internship II