

Fall 2006 Program Review:

El Camino College Construction Technology

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I. Overview

A. Description of Program

The Construction Technology program offers students entry-level skills in various aspects of construction, including carpentry, framing, cabinet making, furniture making and a variety of other sub-crafts and contracting. The Associate in Science degree qualifies a student to receive a maximum of two years of credit applicable to the State Contractor License Board exam.

B. Status of Previous Recommendations

The status of those recommendations itemized in the last Construction Technology “Executive Summary” is as follows:

1. At present, the department has a total of five computers at its disposal, and continues to update its computers and software as necessary.
2. The department has completed conversion of the eight-unit Construction Technology 2, 3, and 4 courses into the following six, more individualized, four-unit courses: CT 121 (Concrete and Formwork), CT 122 (Rough Framing), CT 131 (Roof Framing), CT 132 (Stair Framing), CT 141 (Interior Sub-Crafts), and CT 142 (Exterior Sub-Crafts).

The department is currently reevaluating its curriculum and considering developing several new courses per the recommendations made by the Construction Technology Advisory Committee.

3. Although the department does not have a regular budget allocation for audio-visual materials, it has managed to acquire these materials as needed.
4. The department continues its efforts to create public awareness of the Construction Technology program and to recruit students.
5. The department continues its on-going efforts to improve the outdoor construction facilities for the benefit of Construction Technology students. Outdoor lighting for evening classes and a covered area that would allow for framing on rainy days are still on-going projects.

II. Program Statistics

A. Demand: FTES by Course/Program

Instructions: Analyze the **FTES by Course/Program** using 1st census data and answer the following questions. At a minimum, your analysis must include a 3-year cycle comparing like semesters.

| Course | Year 1 (Fall 2003) | Year 2 (Fall 2004) | Year 3 (Fall 2005) |
|----------------------------|-----------------------|-----------------------|-----------------------|
| CT 100 | 7.35 | 8.66 | 7.87 |
| CT 107abcd (four sections) | 14.9 | 12.09 | 13.49 |
| CT 108abcd | 2.34 | 2.02 | 1.81 |
| CT 109 | 3.09 | 2.67 | 2.67 |
| CT 110 | 6.82 | 6.56 | 6.30 |
| CT 121, 131, 141 | 6.04 | 5.25 | 4.72 |
| CT 122, 132, 142 | 5.25 | 4.46 | 4.46 |
| CT 160 | 2.66 | 2.44 | 2.76 |
| CT 172 | 8.66 | 7.87 | 8.13 |

1. Given the data, can you recognize any trends in course demand in any of the Program's courses?

Course demand remains relatively stable. Fall 2003 was the highest enrollment in the program's recent history, which causes several courses to appear as though enrollment is declining. A five or ten year trend shows the program to be very stable.

2. What are you doing to respond to trends?

The department continues its efforts to create public awareness of the Construction Technology program and to recruit students.

3. Should a recommendation be written addressing the data? Yes No
(If yes, list.)

B. Offerings: Fill Rate*

Instructions: Review and analyze the **fill rate data** (including the fill rate per course for both day and evening), provided by Institutional Research for this program for a three year cycle and answer the following questions:

Average fill rate of courses in program: How does this program compare to:

| | Year 1 (Fall 2003) | Year 2 (Fall 2004) | Year 3 (Fall 2005) |
|----------------------------|-----------------------|-----------------------|-----------------------|
| Day classes: | | | |
| CT 100 | 107.7% | 126.9% | 115.4% |
| CT 110 | 100% | 96.2% | 92.3% |
| CT 121, 131, 141 | 88.5% | 76.9% | 69.2% |
| CT 122, 132, 142 | 76.9% | 65.4% | 65.4% |
| CT 172 | 126.9% | 115.4% | 119.2% |
| Evening classes: | | | |
| CT 107abcd (four sections) | 101.9% | 82.7% | 92.3% |
| CT 108abcd | 84.6% | 73.1% | 65.4% |
| CT 109 | 84.6% | 73.1% | 73.1% |
| CT 160 | 56.8% | 52.3% | 74.3% |

1. Given the data, is the program in a growth mode? _____ Yes X No

At the time of this review, the program is not in a growth mode. However, this is not unusual in that the program's fill rates tend to fluctuate with trends in the construction industry.

When economic times are good for the industry and jobs are plentiful, students tend to leave the program in order to pursue work within the industry. This results in the lowering of fill rates until the availability of work within the industry declines, at which time fill rates tend to increase again.

While new students are enrolling in the core classes at a relatively high rate, many are failing to complete these classes or are electing not to continue in the Construction Technology program. These core classes serve as prerequisites and therefore, impact the fill rates of the advanced classes.

2. What adjustments are indicated?

The department needs to continue its efforts to create public awareness of the Construction Technology program and recruit students. The department also needs to step up its efforts to encourage core class students to continue and complete the program, thereby increasing the fill rates in the advanced classes.

3. Should a recommendation be written that addresses the data? X Yes _____ No

- a. Continue creating public awareness of the Construction Technology program.
- b. Continue student recruitment efforts.
- c. Reschedule Construction Technology 100 to begin at 8:00 a.m.
- d. Review Degree and Certificate requirements.

* Percent of fill of each classes at census.

C. Scheduling: Student Satisfaction with Scheduling

Instructions: Complete the chart below. Indicate the time when sections of courses in the program are currently scheduled to start. Analyze the data provided by Institutional Research on student satisfaction with scheduling in the program and answer the questions.

| Course | During the early morning before 10 am | During the late am/early pm 10am –1:55 pm | During the late afternoon 2 -4:25 pm | During the evening 4:30 & later | During the weekend | During the summer | Via Telecourse | Via On-line |
|-------------------------|---------------------------------------|-------------------------------------------|--------------------------------------|---------------------------------|---------------------|-------------------|----------------|-------------|
| CT 100 | 7:00 AM | | | | | | | |
| CT 107abcd (4 sections) | | 12:00 PM (1 section) | | 6:00 PM (2 sections) | 8:00 AM (1 section) | | | |
| CT 108 | | | | 6:00 PM | | | | |
| CT 109 | | | | | 1:00 PM | | | |
| CT 110 | 8:00 AM | | | | | | | |
| CT 121 | 8:00 AM | | | | | | | |
| CT 122 | 8:00 AM | | | | | | | |
| CT 131 | 8:00 AM | | | | | | | |
| CT 132 | 8:00 AM | | | | | | | |
| CT 141 | 8:00 AM | | | | | | | |
| CT 142 | 8:00 AM | | | | | | | |
| CT 160 | | | | 5:30 PM | | | | |
| CT 172 | 9:00 AM | | | | | | | |

1. What (if anything) is indicated by the student satisfaction with scheduling?

A number of Construction Technology students have expressed their concerns regarding the starting time for Construction Technology 100, which is currently 7:00 AM. The consensus is that both student retention and success rates might improve if this class were to begin at 8:00 AM rather than 7:00 AM.

2. Are there time periods of high student demand which are not being addressed? Yes No

Although student demand indicates interest in class offerings at all times, there have been limitations on the Construction Technology department's ability to expand classes to meet these demands. Greater ability to schedule evening and weekend classes would result in increased FTES during times at which the campus is not currently being utilized. It would also have the added benefit of allowing access to a larger population that is not currently able to enroll at El Camino College due to the limited scheduling of courses.

How could such demand be addressed?

The installation of stadium lighting would allow for outside classes to be offered in the evenings, as well as facilitate the expansion of weekend scheduling.

3. Should a recommendation be written addressing this area? Yes No (If yes, list.)
 1. Install stadium lighting.
 2. Expand inside lab space.
 3. Expand storage to allow for additional classes.
 4. Expand evening and weekend class offerings in both the yard and shop-based classes.
 5. Investigate offering short-term, specialized technique classes.

D. Retention and Success

1. Retention

Instructions: Review and analyze the data on **retention (course completion with a grade other than W)** over a three-year cycle comparing day to evening classes, term to term (e.g. fall to spring, spring to summer, etc.), and course levels.

1. Given the data, what trends are observed?

In general, the overall retention rates for both day and evening classes remained fairly consistent and well above the campus average. Retention for core classes is below the program average, while those of the specialized advanced classes remains above the program average.

This trend is not surprising. Many new students, those most likely to be taking a Construction Technology core course, are as yet uncommitted to a course of study. Therefore, it is not unexpected that this group of students shows a higher rate of attrition.

Conversely, Construction Technology majors, those enrolled in one or more of the specialized advanced classes, are much more likely to complete their course of study.

2. Should a recommendation be written addressing the data? Yes No
(If yes, list.)

2. Success Rate

Instructions: Review and analyze the data on **success rate (students who earned a grade of A,B,C, or Credit)** over a three-year cycle comparing day to evening classes, term to term (e.g. fall to spring, spring to summer, etc.), and course levels and answer the following questions:

1. What trends are observed?

The average success rate for the Construction Technology program remains high.

A number of students have expressed concern regarding the starting time of Construction Technology 100 (Building Fundamentals), which is a core class and serves as a prerequisite to many of the specialized advanced classes. The consensus is that both Retention and Success might improve if Construction Technology 100 were to begin at 8:00 AM rather than 7:00 AM.

Another concern expressed by students is inadequate working space in the lab, which hinders student progress and limits the introduction of new technologies, i.e., equipment.

2. Should a recommendation be written addressing the data? Yes No
 1. Expand storage and interior lab space to enhance the learning environment.
 2. Consider changing the start time for CNST 100 from 7:00 AM to 8:00 AM.

III. Curriculum
A. Course and Content

1. Courses Not Offered

Instructions: Indicate the total number of courses in the program and list all courses in the program which are in the catalog but have not been offered in the last three years. Refer to this list to answer the following questions:

At present, there are a total of 18 Construction Technology courses, all of which have been offered within the past three years.

- a). Given the data, are there courses that should be inactivated? Yes No
N/A.
- b). If there are courses not offered in the last three years that you do not wish to inactivate, what reasons are there to keep them active?
N/A.
- c). Should a recommendation be written addressing the data? Yes No
N/A.

2. Course Revisions and Additions

Instructions: Utilize the Course Review Chart from the Curriculum Office to answer the following:

- a). Are there course outlines that should be revised? Yes No
- b). Are there courses inconsistent with current practice in the field? Yes No
- c). Should new courses to be added to the program? Yes No

The Construction Technology Advisory Committee and student interest indicate that the department should consider the addition of several new, specialized courses, including but not limited to: Masonry, Finish Carpentry, Building Inspection, and Cabinet & Furniture Finishing.

- d). Are adjustments necessary to the conditions of enrollment (Prerequisite, Corequisite, Recommended Preparation, and Enrollment Limitations) for a specific course to increase student success?
 Yes No Uncertain
- e). If the program offers a degree and/or certificate, list them and indicate when the requirements were last reviewed?

Construction Technology Option

The following degree and certificate requirements were last revised in Spring 2001:

A.S. Degree
Certificate of Competence
Certificate of Completion

Cabinet and Fine Woodworking Option

The following degree and certificate requirements were last revised in Fall 2002:

A.S. Degree
Certificate of Competence
Certificate of Completion

- f). Are these degree and/or certificate requirements inconsistent with current practice? ___ Yes X No
- g). Is there a need to create or delete a degree and/or certificate? ___ Yes X No
- h). Should any recommendations be written that address the above responses? X Yes ___ No

The department should consider developing specialized, advanced courses, and determine what impact the addition of these courses may have in each of the following areas:

- Current curriculum, degree, and certificate requirements
- Use of Construction Technology facilities
- Construction Technology supply budget
- Tool and equipment requirements
- Faculty

B. Articulation

Instructions: Using the California Articulation Number (CAN) Guide, answer the following questions:

1. Should any of your courses not currently included in the CAN Guide be articulated?
N/A.
2. What problems, if any, are there in articulating courses?
N/A.
3. Should a recommendation be written addressing above responses? ___ Yes X No

C. Instruction and Assessment

1. Learning Methods

- a). What learning methods are incorporated inside and outside the classroom in the program to promote student success?

Methods include lectures accompanied by demonstrations reinforced by student performance in the lab.

- b). Should a recommendation be written addressing above response? ___ Yes X No

2. Assessment

- a). How do you evaluate the extent to which the learning objectives, skills, and competencies are being met?
- i) Courses -- through written tests and student performance in the laboratory.

ii) Program – Assessed through employment statistics. The Chancellor’s office provides labor market information based on unemployment insurance data, and the program has performed well compared to the State average. However, the data is not wholly accurate as it does not reflect the high number of students who become self-employed in various the field of construction.

b). How do you use the results of the above evaluation to improve student learning and the quality of the program?

The results of students’ written tests and lab performances are used to modify and improve lectures and demonstrations.

c). Should a recommendation be written addressing this area? Yes No

IV. Program Requirements

A. Instructional Support

1. Identify key instructional support areas used by the program.

Libraries & Programs:

| | | | | | | | |
|---|-----------------------------------------------------|--|---------------------------|---|---------------------------|--|----------------------|
| X | Library | | Special Resource Center | X | Basic Skills Study Center | | Library Orientation |
| | Music Library | | Puente Program | | Honors Transfer Program | | Other (Please list.) |
| | Learning Resource Center Media Materials Collection | | Assessment/Testing Office | | Counseling | | |
| X | EOP&S/CalWORKS | | Transfer Center | | First Year Experience | | |
| | Learning Communities | | Project Success | | Honors Transfer Program | | |

Computer Labs & Tutoring:

| | | | | | | | |
|---|-----------------------|--|----------------------------|--|----------------------------------|---|----------------------|
| | LMTC Computer Commons | | SRC High Technology Center | | Other Computer Lab: Please list. | | Writing Center |
| | CAI MAC Lab | | Writing Lab | | | | LRC Tutorial Program |
| | CAI Windows Lab | | Math & Science Lab | | | X | Math Tutoring |
| X | TOP Lab | | Keyboarding Center | | | | SRC Tutorial Program |
| | Hawthorne BTC | | | | | X | EOP&S Tutoring |
| | Inglewood Center | | | | | | |

Faculty Support Services:

| | | | | | | | |
|---|------------------------------------------|---|-------------------------|---|--------------------|--|----------------------|
| | Graphic Arts | | Copy Center | | Distance Education | | Other (Please list.) |
| X | Media Services AV Production | X | Tech Services Help Desk | | Teleconferences | | |
| X | Media Services AV Equipment Distribution | X | Support Staff | | Webconferences | | |
| X | ECC Vehicles | X | ECC hosted Websites | X | Staff Development | | |
| X | ECC E-mail | | | | | | |

2. Do you have some instructional support needs that are not being met? ___ Yes ___ X No

Comment.

3. Should a recommendation be written to address your needs? ___ Yes ___ X No
(If yes, list.)

B. Facilities and Equipment

1. Does the program make effective use of its facilities and equipment? **Explain.**

Yes – the program largely comprises performance-based classes and so laboratory facilities are utilized by students to develop skills and learn current techniques

2. Are adequate facilities, equipment and supplies available for the program? ___ Yes ___ X No

Although able to meet students' needs, we are continuously under pressure for additional interior lab and storage space for student supplies, projects and departmental materials.

The current tool room is also inadequate due to the increase in additional subcraft classes, each of which requires its own unique supplies and tools.

Finally, the lack of separate faculty-only lavatory facilities leads to an inappropriate blurring of the lines between the student and teacher roles. Students have commented that they are uncomfortable with the current situation. On a related note, current lavatory facilities do not have hot water.

3. Are the facilities and equipment adequately maintained? Yes No
The department has not had a full-time tool room technician for six years due to the hiring freeze. This lack of assistance took a toll on the facility, which should be somewhat mitigated as we are currently in the process of interviewing for a replacement.

In addition, increased electrical power would allow the integration of new shop equipment and the addition of a much-needed spray booth.

4. Should a recommendation be written addressing the data? Yes No
- a. Explore ideas for expanding shop facilities and creating additional storage areas for student projects and materials.
 - b. Pursue additional lighting and the acquisition of space for interior framing classes, to be utilized for night classes and in inclement weather.
 - c. Pursue an electrical upgrade.
 - d. Install spray booth.
 - e. Expand tool room.
 - f. Create faculty lavatory facilities.
 - g. Provide hot water.

C. Staffing

Instructions: Analyze the data on **FTEF, adjunct FTEF, and the FT/PT ratio** for the most recent fall semester and answer the following questions:

FTEF (full-time equivalent faculty): # 3.55

Number of full-time FTEF: # 2

Number of adjunct FTEF: # 4

FT/PT load ratio: 65/35

1. How do the program numbers compare to a like semester (Fall to Fall) three years ago or the previous program review?
Same.
2. What do the program data indicate? Comment on any trends or unusual data.
FT/PT ratio remains constant, which is a desirable situation.
3. How does the FT/PT ratio benefit or harm the program?
We have adequate full-time staffing for developing curriculum, attending meetings and serving on committees. Part-time faculty bring in current expertise from industry.
4. Do you have a faculty mentoring program? Yes No
Describe.

5. How do faculty maintain currency in their field?

By attending symposiums and conferences, through visits to local industry sites, e.g., cabinet making shops and construction sites, and working in industry when school is not in session.

6. Fill in the faculty status data below and answer the questions that follow.

| Name | Reassigned time (how much in %) | Currently on leave (check) | Retired in last 2 years (check) | FT hired last 3 years (check) | Anticipated to retire in next 3 years (check) |
|----------------|---------------------------------|----------------------------|---------------------------------|-------------------------------|-----------------------------------------------|
| Kurth, T. (PT) | 0 | | | | |
| Meza, T. | 0 | | | | |
| Ortiz, O. (PT) | 0 | | | | |
| Reno, P. (PT) | 0 | | | | |
| Selph, J. | 0 | | | | |
| Sims, J. (PT) | 0 | | | | |

6a. How does this data impact the program? There is no impact.

6b. Will this data affect the program in the future? No.

7. From this information, can you identify present and future staffing needs? Yes No
No additional staffing needed at this time.

8. What is the department doing to address any future staffing needs?
No future needs anticipated at this time.

9. Should a recommendation be written addressing the data? Yes No
(If yes, list.)

D. Planning

1. Do the program faculty and other personnel have a clear idea of what is happening in the program, where it is headed, what external changes are affecting it, and what changes need to be made in order to enable the program to adapt and continue to be successful?

Yes, we receive advice from our Advisory Committee, in addition to information gained from Division Council meetings, which is disseminated at department meetings to all teaching staff.

2. What data, not currently provided, would be needed in order to improve planning for the development of the program?

The currently provided data is adequate for determining program needs.

3. What major external changes or trends do you expect to be of particular relevance to your discipline in the next five years?

The major factors are economic, such as earnings and interest rates, and the ongoing pressure for housing in the southern California market.

4. What will the implications of these changes or trends be for the program and how will the program need to respond?

The above noted factors will increase the need for skilled craftsmen in all construction areas, such as cabinet making, framing, and all related sub-crafts. They also require the training of students in current construction techniques, procedures, equipment, hardware innovations and installation techniques.

5. Based upon the information above, how would you like the program to evolve within the next five years?

Increased support of professional development is desirable so that faculty may take advantage of relevant symposiums, conferences, and training opportunities. The knowledge gained would then be incorporated into the curriculum so that students are better prepared to (re-)enter the workforce, and those currently employed would be better positioned to advance.

6. Should a recommendation be written addressing the data? Yes No

As noted in the 'Facilities and Equipment' section above, it is recommended that ideas be explored for expanding shop facilities, creating additional storage areas for student projects and materials, and pursuing additional lighting and the acquisition of space for interior framing classes.

V. Conclusion

1. Prioritized Recommendations

1. Explore ideas for expanding shop facilities, including the tool room, and creating additional storage areas for student projects and materials. Acquire space for interior framing classes, to be utilized for night classes and in inclement weather.
2. Install stadium lighting.
3. Expand evening and weekend class offerings in both the yard and shop-based classes, including short-term, specialized technique classes.
4. Change the starting time for Construction Technology 100 from 7:00 AM to 8:00 AM.
5. Continue creating public awareness of the Construction Technology program in our on-going student recruitment efforts.

2. Major Needs

Additional space and lighting.

3. Strategies

Continue to improve facilities in order to attract students and best serve their needs with current information and state-of-the-art techniques.