**Sinclair Community College - Continuous Improvement Annual Update 2011-12**

**Program:** Civil and Construction Technology

**Section I: Trend Data**

* 1. **Program Trend Data– Please include the three most recent years of data in each area so that trends may be examined.**
  2. **Interpretation and Analysis of Trend Data Included in the Section Above *Suggestions of questions that might be addressed in this section:***  *What trends do you see in the above data? Are there internal or external factors that account for these trends? What are the implications for the program or department? What actions have the department taken that have influenced these trends? What strategies will the department implement as a result of this data?*

The Civil Architectural Engineering Technology Program (CAT) offers three Associate Degrees: Architectural Technology (ARC), Civil Engineering Technology (CEGT) and Construction Management Technology (CMO). There is also a Certificate program in Surveying. These disciplines are connected to the design or construction of the Built Environment (all of the man-made surroundings that provide the setting for human activity).

All three programs require several introductory courses during the first year of study with the second year consisting of courses directed toward the individual discipline.

Average success rates have been trending down slightly for the department, division and college as shown in the table above. The highest enrollment course, CAT 101 also has the lowest success rate. This enrollment is made up of both CAT and Interior Design students. For many students, it is both the first college course and the first hand drafting course they have seen, and success rates reflect this fact. Student success starts to trend up after the classes taken in the first quarter. The most defining reason for students’ lack of success has been their failure to stay on track and understand the rigor of college course work. The reasons are the same as we consistently see in a community college setting, financial, family or work ethic.

Seat count declines and success improves in the second year courses because students have succeeded in the earlier courses and are more serious about their education. The second highest enrollment course, CAT 201, is a second0year course which also has higher success rates. This is due both to student maturity as students as well as students relating to the material being covered as being very real-world. The highest success rate is in the Capstone course, CAT 278, where 97% of students have been successful over the past 3 years.

Graduation rates fluctuate from year to year and discipline to discipline but average slightly over 27 per year in the degree programs. The percentage of those who choose to continue their education is consistent with the Division’s average of 25% and most students are employed by the time they graduate. There is a wide range of career paths in both private industry and government in our discipline of the Built Environment.

**Section II: Progress Since the Most Recent Review**

1. What was the fiscal year of the most recent Program Review for this program? (The most recent Program Review self-study can be found at <http://www.sinclair.edu/about/administrative/vpi/pdreview/> ).

Our last formal program review was in 2005-06.

1. Briefly summarize the goals that were listed in Section IV part E of the most recent Program Review Self-Study (this section of the Self-Study asks “What are the department’s/program’s goals and rationale for expanding and improving student learning, including new courses, programs, delivery formats and locations”)?

At the time of our last review we were in the midst of combining the Mechanical Engineering Technology program with the Industrial Design Programs which led to the present department of Engineering Technology Design. Our goals were wide-ranged to accomplish this. The specific goals of the Built Environment programs were to succeed in ABET reaccreditation, combine two different course prefixes into one and eliminate unneeded and duplicative courses. In addition, we planned to parlay partnerships with the Tech Prep programs at the Career Technology Centers to increase our enrollment.

1. What Recommendations for Action were made by the review team to the most recent Program Review?

The format of the review process at that time did not include specific Recommendations for Action.

1. Have the goals in your self-study changed since your last Program Review Self-Study as a result of the Review Team recommendations or for any other reason?  If so, please describe the changes.

ABET requires that programs establish objectives which are broadly defined as those things graduates should be doing 3 to 5 years after graduation.

Our Program educational objectives have remained the same through two accreditation cycles and are concisely stated:

* Graduates have the knowledge and skills necessary to function as a design or field technician in the specific discipline
* Graduates have the knowledge and skills necessary to transfer into a baccalaureate program

1. What progress has been made toward meeting any of the goals listed in the sections above (b, c, and d) in the past year?

Our goals (ABET Objectives) continue to be achieved and are ongoing.

**Section III: Assessment of Outcomes**

The Program Outcomes for this program are listed below. **At least one-third of your program outcomes must be assessed as part of this Annual Update, and across the next three years all of these program outcomes must be assessed at least once**.

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| **Civil and Construction Technology**  Program Outcomes | In which courses are these program outcomes addressed? | Which of these program outcomes were assessed during the last fiscal year? | Assessment Methods  Used |
| 1. Communicate effectively and professional in the architectural environment through proper usage of verbal, written and graphic skills.   **(ARC, CEGT and CMO)** | COM 206, ENG 111, ENG 112, CAT 101, CAT 121, CAT 201, CAT 216, CAT 221, CAT 223, CAT 227, CAT 245, CAT 255, CAT 278 | ASSESSED IN  FY 09-10 | Faculty and Advisory Committee assessment of CAT 278 Capstone Course  Core competency survey at the time of graduation  Graduate Exit Interviews  Employer Surveys  Faculty review of student comments from course evaluations |
| 1. Employ logical and concise problem solving techniques to complex problems.   **(ARC, CEGT and CMO)** | MAT 131, MAT 132, PHY 131, ETD 213, ETD 222, ETD 261, CAT 223, CAT 245, CAT 255, CAT 278 |  | Faculty and Advisory Committee assessment of CAT 278 Capstone Course  Core competency survey at the time of graduation  Graduate Exit Interviews  Employer Surveys  Faculty review of student comments from course evaluations |
| 1. Know building materials, components, mechanical systems and methods of construction for both residential and commercial buildings.   **(ARC only)** | CAT 105, CAT 106, CAT 133, CAT 216, CAT 240,  CAT 241, CAT 245, CAT 260, CAT 278 |  | Faculty and Advisory Committee assessment of CAT 278 Capstone Course  Core competency survey at the time of graduation  Graduate Exit Interviews  Employer Surveys  Faculty review of student comments from course evaluations |
| 1. Understand the mechanics of   structural design.  **(CEGT and CMO)** | MAT 131, MAT 132, PHY 131, ETD 213, ETD 222, CAT 245 |  | Faculty and Advisory Committee assessment of CAT 278 Capstone Course  Core competency survey at the time of graduation  Graduate Exit Interviews  Employer Surveys  Faculty review of student comments from course evaluations |
| 1. Understand the Architectural Design process.   **(ARC only)** | CAT 105, CAT 106, CAT 110,  CAT 201,  CAT 212, CAT 240, CAT 241, CAT 260, CAT 278 |  | Faculty and Advisory Committee assessment of CAT 278 Capstone Course  Core competency survey at the time of graduation  Graduate Exit Interviews  Employer Surveys  Faculty review of student comments from course evaluations |
| 1. Use surveying equipment and software applications to safely collect data, solve technical problems and layout construction projects.   **(CEGT and CMO)** | CAT 121, CAT 123, CAT 221, CAT 223, CAT 227, CAT 229, CAT 278 |  | Faculty and Advisory Committee assessment of CAT 278 Capstone Course  Core competency survey at the time of graduation  Graduate Exit Interviews  Employer Surveys  Faculty review of student comments from course evaluations |
| 1. Produce a complete set of working drawings for both a single family home and a commercial building.   **(ARC only)** | CAT 101, CAT 102, CAT 105, CAT 106, CAT 110,  CAT 201, CAT 212, CAT 240, CAT 241,  CAT 278 |  | Faculty and Advisory Committee assessment of CAT 278 Capstone Course  Core competency survey at the time of graduation  Graduate Exit Interviews  Employer Surveys  Faculty review of student comments from course evaluations |
| 1. Assist in the management of construction projects with emphasis on safety, quality and continuous improvement.   **(ARC, CEGT and CMO)** | ETD 198, CAT 105, CAT 106, CAT 145, CAT 216, CAT 255, CAT 278 |  | Faculty and Advisory Committee assessment of CAT 278 Capstone Course  Core competency survey at the time of graduation  Graduate Exit Interviews  Employer Surveys  Faculty review of student comments from course evaluations |
| 1. Function effectively in teams—demonstrating a cooperative effort to evaluate and solve problems and to develop and implement plans.   **(ARC, CEGT and CMO)** | COM 206, CAT 110, CAT 123, CAT 221, CAT 227, CAT 229, CAT 245, CAT 278 |  | Faculty and Advisory Committee assessment of CAT 278 Capstone Course  Core competency survey at the time of graduation  Graduate Exit Interviews  Employer Surveys  Faculty review of student comments from course evaluations |
| 1. Recognize professional, ethical and societal responsibilities, respect diversity and commit to lifelong learning.   **(ARC, CEGT and CMO)** | SCC 101  CAT 110, CAT 216, CAT 245, CAT 255, CAT 270, CAT 278, ETD 121 | ASSESSED IN  FY 09-10 | Faculty and Advisory Committee assessment of CAT 278 Capstone Course  Core competency survey at the time of graduation  Graduate Exit Interviews  Employer Surveys  Faculty review of student comments from course evaluations |

1. For the assessment methods listed in the table above, what were the results?
2. The ABET Reaccreditation self-study allowed us the opportunity to assess ourselves. We completed and studied several of the assessment tools listed above:

* Faculty and Advisory Committee assessment of CAT 278 Capstone Course
* Graduate exit Interviews
* Employer Surveys
* Faculty review of student comments

To summarize, we concluded that our programs are effective and meet the highest standards required by this national accreditation board. After their scrutiny, they agreed and as previously stated we received a new six (6) year full reaccreditation.

1. In the Capstone course (CAT 278) special emphasis was placed on students’ abilities to function as teams in a construction management environment. Results of assessments by faculty and advisory board members indicate that students performed well.
2. Were changes planned as a result of the data? If so, what were those changes?

No major changes have been initiated other than to prepare a semester curriculum that will continue to meet the program goal and outcomes.

1. How will you determine whether those changes had an impact?

Like everyone else, we will have to assess new data tied to the semester format and look to see if we continue to achieve the goals of students and employers.

c) Starting with next year’s Annual Update, this section will ask about assessment of general education outcomes. For FY 2012-13, you will be asked how the department is assessing Oral Communication and Written Communication in your courses, and in addition you will be asked to share the results of those assessments. Please be prepared to address this in next year’s Annual Update.

1. Does your department have courses where there are common assignments or exams across all sections of the course? If so, please list those courses, and indicate whether you are currently examining results across all sections of those courses.

We do not have common assignments or exams.

**Section IV: Improvement Efforts for the Fiscal Year**

1. **FY 10-11:** What other improvement efforts did the department make in FY 09-10?  How successful were these efforts?  What further efforts need to be made? If your department didn’t make improvement efforts during the fiscal year, discuss the strengths and weaknesses of the department over the last year and how the department plans to address them in the coming year.

* Constructed a separate doorway to allow direct access from the common area to the civil materials lab and survey equipment storage area.
* Reconfigured a hand drafting lab to be able to do both hand drafting and computer-aided drafting.
* Dedicated an open computer lab for CAT, ETD and HVA student use with computers robust enough to run the high-intensity graphics programs used in these program of study.

1. **FY 10-11:** What improvement efforts does the department have planned for FY 10-11? How will you know whether you have been successful?

Continue to prepare to implement the Semester curriculum in all Built Environment Programs. Success will become evident after we have run at least one cycle of all courses.

Questions regarding completion of the Annual Update? Please contact the Director of Curriculum and Assessment at 512-2789 to schedule a time to review the template and ask any questions.