**Sinclair Community College - Continuous Improvement Annual Update 2010-11**

**Program:** Environmental Engineering Technology

**Section I: Trend Data**

1. **Program Trend Data**

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| **EVT.AAS Degree Program** |
| Average Age: 30, up from 26 in past 3 years |
| African-American Male | 4% |
| African-American Female | 4% |
| Caucasian Male | 49% |
| Caucasian Female | 28% |
| Other Male | 10% |
| Other Female | 5% |

1. **Interpretation and Analysis of Trend Data** *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?*

Increased enrollment and persistence should translate into higher graduation rates over the next few years. Having filled the vacant tenure track position should allow for more focus on the program and increases high school recruiting will take place. An examination of the program with the new advisory board should allow the program’s focus to be narrowed to make it more responsive to the needs of local employers, especially in water and wastewater treatment. This program has the highest percentage of women of all of the ETD programs but low enrollment by minorities. Work with one or more high=minority population high schools could increase the minority population in the program.

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

1. What was the fiscal year of the most recent Program Review for this program? 2006-2007
2. 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”)?

Expand tech prep linkages with high schools – maintaining relationships but the number of participating high schools has decreased to two.

Develop environmental courses for web delivery – no funding available.

Expand articulation agreements with four-year schools – stalled due to loss of faculty member in 2010.

1. Have these goals changed since your last Program Review Self-Study?  If so, please describe the changes.

Maintaining high school linkages and developing stronger relationships with those programs is critical.

Work to update and increase articulation agreements with transition to semesters.

Evaluate demand for Environmental courses at the Courseview campus.

1. What progress has been made toward meeting any of the goals listed above in the past year?

None due to loss of primary environmental faculty member. With new hire in mid-2011, we will start to work on these again.

1. What Recommendations for Action were made by the review team to the most recent Program Review? What progress has been made towards meeting these recommendations in the past year?
2. Seek out partnerships and collaborations to result in additional articulation agreements with four-year schools – No significant progress due to loss of faculty member.
3. Promote student awareness of the value of the degree and not just short-term course work – no significant progress due to loss of faculty member.
4. Address disconnect between student perceptions of environmental employment opportunities and actual opportunities in this region – working with expanded advisory board to better define opportunities and modify curriculum to reflect this reality.

**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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| **Environmental Engineering Technology**Program Outcomes | In which courses are these program outcomes addressed? | Which of these program outcomes were assessed during the last fiscal year?  | Assessment MethodsUsed |
| **1)** Understand and apply the principals of water and waste water treatment systems and solid waste treatment and disposal systems to the operation and maintenance of those systems. | ETD 150 ETD 155 |  | ETD278 CapstoneTeam Exercises: Oral presentationsTeam Exercises: Written assignmentsLocally Developed Exams |
| **2)** Develop skills and knowledge of safety procedures to protect themselves, other persons and the environment. | ETD 150ETD 155ETD 255OPT 105 |  | ETD278 CapstoneTeam Exercises: Oral presentationsTeam Exercises: Written assignmentsLocally Developed Exams |
| **3)** Understand, follow and apply protocols for environmental site assessments. Detect the conditions indicative of releases or threatened releases of hazardous substances, pollutants, contaminants, petroleum, petroleum products and controlled substances by records review or actual testing. Identify potential environmental liabilities associated with properties considered for transfer. | CAT 245ETD 150ETD 251ETD 261 |  | ETD278 CapstoneSimulation Team Exercises:Conduct Site AssessmentTeam Exercises: Oral presentationsTeam Exercises: Written assignmentsLocally Developed Exams |
| **4)** Develop skills and knowledge to identify, analyze and process hazardous substances and wastes. | ETD 251ETD 255ETD 270 |  | Team Exercise: Hazardous Waste OperationsLocally Developed Exams |
| **5)** Apply knowledge of environmental laws and regulations in performing compliance assessment audits and pollution prevention surveys. | ETD 150ETD 155ETD 255ETD 270ETD 278COM 211OPT 105 |  | ETD278 CapstoneSimulation Team Exercises:Conduct Site AssessmentTeam Exercises: Oral presentationsTeam Exercises: Written assignmentsLocally Developed Exams |
| **6)** Develop skills and knowledge to monitor and analyze contamination distribution in surface water and ground water. | ETD 150ETD 155HVA 286CHE 121CHE 151CHE 152CHE 153CHE 157CHE 158CHE 159 |  | ETD 278 CapstoneSimulation Team ExercisePerformance Appraisals: Equipment demonstrationsLocally Developed Exams |
| **7)** Demonstrate environmental techniques and principals by performing remedial investigation, feasibility studies and by assisting in designing, constructing and maintaining remediation systems. | ETD 255ETD 270 |  | ETD278 CapstoneTeam Exercises: Written assignmentsLocally Developed Exams |

a) For the assessment methods listed in the table above, what were the results? What changes are planned as a result of the data? How will you determine whether those changes had an impact?

Student skills were found to be weak in preparation of Environmental Phase I reports. Additional emphasis was placed on this in the core classes and the work products were much better.

Student understanding of safety requirements is assessed at the good level. Proper safety procedures and practices will continue to be be emphasized.

b) What other changes have been made in past years as a result of assessment of program outcomes? What evidence is there that these changes have had an impact?

Additional writing and presentation assignments were implemented in several courses the past few years and student written materials and presentations in the capstone course have noticeably improved.

c) Describe general education changes/improvements in your program/department during this past academic year (09-10).

Added additional material into ETD 121 on critical thinking.

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

1. **FY 09-10:** 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.

The biggest improvement was in the implementation of the integrated capstone project. This project has required students to use more teamwork and communication skills along with their technical skills. The project was an overall success and communication was better in this, the second year than in the first year, however, more improvement needs to be made.

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?

Continued work on integrating teams. Plan to do one or more joint assignment with the civil engineering technology students prior to capstone quarter to help foster a sense of community.

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.