**Sinclair Community College**

**Continuous Improvement Annual Update 2015-16**

**Please submit to your Division Assessment Coordinator / Learning Liaison for feedback no later than March 1, 2016**

**After receiving feedback from your Division Assessment Coordinator, please revise accordingly and make the final submission to your dean and the Provost’s Office no later than May 2, 2016**

**Department:** **SME –0565 Construction Management Technology**

Year of Last Program Review: FY 2013-2014

Year of Next Program Review: FY 2019-2020

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

Below are the goals from Section IV part E of your last Program Review Self-Study. Describe progress or changes made toward meeting each goal over the last year. Responses from the previous year’s Annual Update are included, if there have been no changes to report then no changes to the response are necessary.

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| **GOALS** | **Status** | **Progress or Rationale for No Longer Applicable** |
| The department is in the early stages at delivering content at the various learning centers. This past semester we offered CAT1101 Architectural Drafting at Englewood. This course is half board drafting and half CAD. The department worked with the administration at Englewood to purchase drawing boards that could be used during class and then stored when class was over. This is the second semester we are offering the class with a healthy enrollment. | In progress  Completed  No longer applicable | We have successfully run two classes at the Englewood Learning Center in fall semester: CAT1101 Architectural Drafting and CAT1121 Introduction to Revit & BIM. Offerings in spring semester were cancelled due to low enrollment. |
| The department has also been working with administration at Courseview to offer courses. Originally it was determined that several courses in the Mechanical Engineering Technology Program and Drafting and Design – Mechanical Certificate would be a good fit. Upon exploration, it was determined that several architectural courses, especially those software based, could be offered with just some modifications to the computers in the labs. | In progress  Completed  No longer applicable | Computers at Courseview are now able to run the software needed for all CAT programs. No classes ran during fall or spring semesters. At the moment, the department is focusing on supporting the Engineering University Transfer program. |

Below are the Recommendations for Action made by the review team. Describe the progress or changes made toward meeting each recommendation over the last year. Responses from the previous year’s Annual Update are included, if there have been no changes to report then no changes to the response are necessary.

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| **RECOMMENDATIONS** | **Status** | **Progress or Rationale for No Longer Applicable** |
| Some programs at Sinclair have benefited from adding a one credit hour introductory course prior to major-specific coursework that allows students exposure to what the program is like and what the expectations will be. These departments report that students sometimes change their minds about entering the program once they have completed the introductory course. The department is encouraged to explore whether prerequisite introductory courses of this nature might be appropriate for some of its programs. | In progress  Completed  No longer applicable | CAT1161 Introduction to Civil & Architectural Technology is a survey course of three programs: Architectural Technology, Civil Engineering Technology and Construction Management Technology. This course is being successfully taught at local high schools, including Kettering-Fairmont and Centerville. |

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| According to the self-study, “students entering the program are generally ill-prepared in math”. The department is encouraged to consider adding MAT prerequisites to some of its courses early in the program – and perhaps later in the program for higher level MAT courses - based on careful deliberation and data regarding how well students who have not had the proposed prerequisite compare in terms of course completions with those who have had the proposed perquisite. | In progress  Completed  No longer applicable | The department has taken care not to include many prerequisites in introductory courses for fear of turning students off initially. However, the tech math courses once required for the degrees have been changed to MAT1580 Precalculus. This will be beneficial for students as they go on to university and will help them be better prepared for industry. |
| It is clear that the department is collecting assessment data. The standardization of coursework puts the department at a distinct advantage in this regard relative to many other departments at the college. The department is encouraged to better document this assessment work by formally collecting and analyzing student assignment and exam scores that relate to general education and program outcomes. The self-study provided evidence that assessment data was being collected, but in the next self-study it should be made more clear that this data is being combined, analyzed, reported, and used for improving student learning. The department is strongly encouraged to work with its Divisional Assessment Coordinator / Learning Liaison to explore ways of combining data across sections and analyzing it in relation to general education and program outcomes. | In progress  Completed  No longer applicable | Data continues to be collected and analyzed. Often, recommendations from our industry led advisory board are tested, analyzed and considered before that change is made permanently.  The department is also finalizing the self-studies of the Civil Engineering Technology program which is seeking reaccreditation this fall. The department is also seeking accreditation for the first time for Architectural Technology and Construction Management Technology. |
| Social media, such as LinkedIn, provide new avenues for maintaining connections with graduates and gathering data from students who have moved on to the next phase of their careers. The department is encouraged to consider exploring social media for this reason, and consider whether faculty should be assigned to oversee this. | In progress  Completed  No longer applicable | After the department set up both Facebook and Twitter accounts, marketing asked us to take them both down. The department complied with the request. |
| Related to the above recommendation, the department is encouraged to explore other ways of tracking graduates, and also for tracking co-op experiences. There are currently efforts underway to better document students in all internship and co-op experiences at the college, and hopefully in the next self-study the department will be positioned to describe the number and scope of co-op experiences its students participate in. | In progress  Completed  No longer applicable | The division now has a full time internship coordinator, Chad Bridgman that tracks internship opportunities and students within the program. The coordinator is now tracking data electronically so that it can better be evaluated. |
| The department is encouraged to continue its work with dual enrollment and other high school linkage efforts, funneling students from high school into Sinclair as they begin college. Its efforts in high school linkages have been exemplary, and it is hoped that this will continue in the years to come. | In progress  Completed  No longer applicable | The department will have taught twelve (12) college credit plus classes this year. The courses include CAT1161 Introduction to Civil and Architectural Technology, CAT1121 Introduction to Revit & BIM, CAT1201 Construction Methods & Materials, CAT1701 Construction/Craft Skills, CAT1741 Residential Electrical Systems, CAT 1761 Interior & Exterior Finishes, MET1151 Guitar Manufacturing using Science, Technology, Engineering & Mathematic Concepts, and MET1231 Introduction to Drafting & Design using Inventor. |

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| The department is strongly encouraged to update articulation agreements for semesters and explore whether articulations with new institutions might be appropriate. The Assistant Dean in the division can be a valuable resource in this regard. | In progress  Completed  No longer applicable | The department met with Franklin University to work on articulation agreements for Architectural Technology, Civil Engineering Technology, Construction Management Technology, Energy Management Technology, Environmental Engineering Technology, HVAC-R Engineering Technology and Mechanical Engineering Technology. These degrees would transfer into a Bachelor of Science in Applied Management. Details are still being finalized. |
| There appears to be some confusion in the minds of some students regarding which programs are transfer programs and which are designed to result in a terminal degree. The department is encouraged to explore new ways of making students aware of these distinctions – much work has already been done, but it seems that additional efforts are needed. | In progress  Completed  No longer applicable | The department is working to educate students about career and educational pursuits after completing a technology degree. Work has been done to update the Sinclair website department and program pages as well as hosting an open house that outlines those possibilities. |
| Moving all of the programs in the department under a single budget number appears to make sense – the department is encouraged to explore this possibility, although care should be taken to identify and address any potential unintended consequences by conferring with the Budget Office. | In progress  Completed  No longer applicable | After years of attempting to separate the department’s seven programs by GL code, as of July 1, 2015 the department now has a GL code for all programs. Tracking, data analysis and budgeting should be much easier as a result. |

**Section II: Assessment of General Education & Degree Program Outcomes**

The Program Outcomes for the degrees are listed below. **All program outcomes must be assessed at least once during the 5 year Program Review cycle, and assessment of program outcomes must occur each year**.

**PLEASE NOTE – FOR THE PREVIOUS YEAR AND THIS YEAR, REPORTING OF GENERAL EDUCATION OUTCOME ASSESSMENT HAS BEEN TEMPORARILY POSTPONED. WE WOULD ASK THAT IN THIS ANNUAL UPDATE YOU IDENTIFY AT LEAST ONE COURSE IN YOUR DEGREE PROGRAM(S) WHERE ASSESSEMENT AT THE MASTERY LEVEL WILL OCCUR FOR THE FOLLOWING GENERAL EDUCATION OUTCOME:**

* **Cultural Diversity & Global Citizenship: Apply knowledge of cultural diversity to real world context by acknowledging, understanding, and engaging constructively within the contemporary world.**

**PLEASE RESPOND TO THE FOLLOWING QUESTIONS:**

**Do you have a required course in your program curriculum where Cultural Diversity & Global Citizenship could be assessed for mastery?**

**Yes No If yes, please list the course: MET2711 Ethics for Engineering Technology Professionals.**

**If no, is there an elective course that is listed on your Preferred Program Pathway Template where Cultural Diversity & Global Citizenship could be assessed for mastery?**

**Yes No If yes, please list the course:** Click here to enter text.

**If no, is there another elective course that is an option in your program curriculum where Cultural Diversity & Global Citizenship could be assessed for mastery?**

**Yes No If yes, please list the course:** Click here to enter text.

**If no, where do students master Cultural Diversity & Global Citizenship in your program? Do you need assistance incorporating this General Education outcome into your degree program?**

Click here to enter text.

**NOTE THAT THERE WILL NEED TO BE AT LEAST ONE EXAM / ASSIGNMENT / ACTIVITY IN THIS COURSE THAT CAN BE USED TO ASSESS MASTERY OF THE COMPETENCY.**

**YOU MAY ALSO SUBMIT ASSESSMENT RESULTS FOR THIS GENERAL EDUCATION COMPETENCY IF YOU HAVE THEM, BUT IT WILL BE CONSIDERED OPTIONAL**.

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| **Construction Management Technology Program Outcomes** | To which course(s) is this program outcome related? | Year assessed or to be assessed. | Assessment Methods  Used | What were the assessment results?  (Please provide brief summary data) |
| Recognize professional, ethical and societal responsibilities, respect diversity and commit to lifelong learning. | CAT2411  CAT2700  CAT2782  EGV2351  MET2711  OTM/Social & Behavior Science | 2014-2015 | Challenger case and KC Skywalk case w/ written rubrics for Professionalism  NSPE Ethics quiz for ethical responsibilities  Diversity, Risky Tank case w/written rubric  Capstone Integrated Project Design | Challenger Case:  Average score: 91.1% (spring) 100% (fall)  Students achieving 70% threshold:  90% (spring) 100% (fall)  KC Skywalk Case:  Average score: 81.3% (spring) 82% (fall)  Students achieving 70% threshold:  90% (spring) 100% (fall)  NSPE Ethics Quiz  Average score: 82.6% (spring) 84% (fall)  Students achieving 70% threshold:  91% (spring) 100% (fall)  Risky Tank (Diversity:  Average score: 72.4% (spring) 91.2% (fall)  Students achieving 70% threshold:  64% (spring) 100% (fall)  Capstone Integrated Project:  This work is assessed formally throughout the capstone course by faculty who provide written and oral feedback utilizing a rubric which is distributed prior to the assignment due date. Some assignments are due weekly, allowing faculty and students to recognize trends and make significant improvement.  At the conclusion of the capstone, faculty and advisory board members are asked to assess student work against a variety of outcomes.  The data is gathered electronically and analysis is provided by Research, Analytics and Reporting. The department utilizes the RAR input to help guide improvements to the capstone course annually.  Advisory board members consistently rate the work of our capstone students as meeting or exceeding expectations, including embedded general education outcomes.  Since 2011, one data point was below the 70% threshold of 6.3 on a 9 point Likert Scale. There was no additional feedback from the employer as to the low rating.  Exit interviews are conducted with students nearing completion.  Course evaluation data is used by faculty to partially gauge delivery and mastery success. |

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| Interpret construction documents, develop a cost estimate and project schedule with assigned resources. | CAT Elective  CAT1401  CAT2401  CAT2782 | 2014-2015 | Capstone Integrated Project Design | This work is assessed formally throughout the capstone course by faculty who provide written and oral feedback utilizing a rubric which is distributed prior to the assignment due date. Some assignments are due weekly, allowing faculty and students to recognize trends and make significant improvement.  At the conclusion of the capstone, faculty and advisory board members are asked to assess student work against a variety of outcomes. The data is gathered electronically and analysis is provided by Research, Analytics and Reporting. The department utilizes the RAR input to help guide improvements to the capstone course annually.  Advisory board members consistently rate the work of our capstone students as meeting or exceeding expectations, including embedded general education outcomes.  Though the program outcome was changed in 2012, the Research Analytics and Reporting instrument used at the Capstone Dinner and Expo did not update until 2015. Redefining this program outcome showed an increase in graduation level assessment by the advisory board.  Exit interviews are conducted with students nearing completion.  Course evaluation data is used by faculty to partially gauge delivery and mastery success. |
| Communicate effectively and professionally through proper use of oral, written and graphic skills. | CAT1101  CAT1121  CAT1201  CAT1401  CAT2401  CAT2782  COM2211  ENG1101  MET1131  MET2711 | 2015-2016 | Oral communication: real-world ethics case presentation graded by rubric  Written communication, final case graded by rubric  Capstone Integrated Project Design | Real-world ethics case oral presentation: Average score: 87.6% (spring) 95.3% (fall)  Students achieving 70% threshold:  91% (spring) 100% (fall)  Final ethics case: Average score: 84% (spring) 88.2% (fall)  Students achieving 91% threshold:  100% (spring) 100% (fall)  Student work is accessed at milestones and midterms throughout the semester based on rubrics of this outcome. Work is accessed by both faculty and advisory board members.  Advisory board members are surveyed at the Capstone Dinner and Expo and rank student success in this outcome. Advisory board feedback for this outcome a dramatic increase in achievement from the previous year, most likely because RAR finally changed the outcome to reflect the proper communicate outcome, not the Civil Engineering Technology outcome of using surveying equipment. Student achievement was rated at 8.5 on a 9 point Likert Scale.  Exit interviews are conducted by the department chair to get students perspectives on the program, its outcomes and improvements that can be made.  Faculty meet weekly to discuss student work and progress toward course and program objectives. Any perceived deficiencies are discussed with prerequisite course coordinators. |
| Function effectively in teams by demonstrating a cooperative effort to evaluate and solve problems and to develop and implement plans. | CAT Elective CAT1501  CAT2401  CAT2700  CAT2782 | 2015-2016 | Capstone Integrated Project Design | Student work is accessed at milestones and midterms throughout the semester based on rubrics of this outcome. Work is accessed by both faculty and advisory board members.  Survey results from employers who hosted internship students showed an average rating of 8.6 on a 9 point Likert Scale. There were no responses below the 70% threshold of 6.3.  Advisory board members are surveyed at the Capstone Dinner and Expo and rank student success in this outcome.  According to the aggregated data, Construction Management Technology students consistently demonstrate satisfactory problem solving skills as applied to construction related challenges. Capstone Expo attendees rated the performance of the students as high as 8.50 on a 9 point Likert scale.  Exit interviews are conducted by the department chair to get students perspectives on the program, its outcomes and improvements that can be made.  Faculty meet weekly to discuss student work and progress toward course and program objectives. Any perceived deficiencies are discussed with prerequisite course coordinators. |

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| Define the methods, materials and techniques used in the construction process with an emphasis on safety, quality, and continuous improvement. | CAT Elective  CAT1101  CAT1121  CAT1201  CAT1211  CAT1241  CAT1401  CAT2401  CAT2411  CAT2782  EGV2351 | 2016-2017 |  | Though the program outcome was changed in 2012, the Research Analytics and Reporting instrument used at the Capstone Dinner and Expo did not update until 2015. Redefining this program outcome showed an increase in graduation level assessment by the Capstone Expo attendees. |

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| Employ logical and concise problem-solving techniques to complex problems. | CAT Elective  CAT1101  CAT1121  CAT1201  CAT1241  CAT1401  CAT2401  CAT2782  MAT1580  PHY1141 | 2017-2018 |  | Survey results from employers who hosted internship students averaged 7.5 on a 9 point Likert scale. Two responses indicated student ability was less than the 70% threshold of 6.3.  According to the aggregated data (Appendix E, Graph E-8), Construction Management Technology students consistently demonstrate satisfactory problem solving skills as applied to construction management problems. Capstone Expo attendees rated the performance of the students as high as 8.33 on a 9 point Likert scale. |

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| **Are changes planned as a result of the assessment of program outcomes? If so, what are those changes?** | Recent and planned changes to the Integrated Project Capstone Courses (CAT2782):  Capstone changed in lecture lab split from 2/4 to 2/6   * Increases student lab time while keeping credit hours the same * Student have more time to work in integrated teams * Deemed efficient and will continue   Capstone courses were inconsistent, of pour quality and unfocused   * Boot camp session with Graphic Design chair incorporated into class * Poster board quality seen as improving * Will most likely make change permanent   Capstone Students working with outside organizations lack milestones   * In spring 2016, students will work with outside organization mid-semester to develop milestones * In spring 2017, students will work with outside organizations week one to develop an outline for the entire semester with discipline due dates and milestones * Work with partner schools, such as University of Dayton to align course offering days/times   Capstone students confused by binder requirements, not keeping all research / work to date   * Name changed from binders to journals * More coaching from faculty on purpose of keeping research work * Plan to keep name change   Capstone students taking too many weeks to develop plans   * Include a design charrette week one with industry professionals to jumpstart their design work * Initial findings show that work has progressed more quickly * Plan on keeping exercise in course |

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| **How will you determine whether those changes had an impact?** | Feedback from advisory board during Capstone midterm presentations  Feedback from advisory board members at Capstone Expo and dinner at end of semester  Results of accreditation efforts in October 2016.  Feedback from self-study report for accreditation.  Feedback from internship partners. |