**Sinclair Community College**

**Continuous Improvement Annual Update 2014-15**

**Please submit to your Division Assessment Coordinator / Learning Liaison for feedback no later than March 1, 2015**

**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 1, 2015**

**Department:** 0561 – Electronic Technology / 0572 – Electromechanical/Robotics / 0560 – Advanced Intelligence

Year of Last Program Review: FY 2008-2009

Year of Next Program Review: FY 2015-2016

**Section I: Department Trend Data, Interpretation, and Analysis**

**Degree and Certificate Completion Trend Data – OVERALL SUMMARY**

Please provide an interpretation and analysis of the Degree and Certificate Completion Trend Data (Raw Data is located in Appendix A*): i.e. 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 department? What actions have the department taken that have influenced these trends? What strategies will the department implement as a result of this data?*

ATI

This program started off very strong and continues to perform well. There was a drop in year FY 12-13 caused by the change from quarters to semester. The decision was made to start the cohort cycle in Spring Semester therefore there were no semester certificate graduates in 2013 – 2014. These students will graduate in December 2013. There has been a slight increase this year. This program prepares students for a very specialized job market. This program has formed strong partnerships with ATIC, AFIT and Riverside Research and continues to peruse partnerships with other organizations. Many of our graduates move directly into these organizations when they graduate. Transfer agreements are being discussed to bridge Sinclair's program to a bachelor degree program.

EET

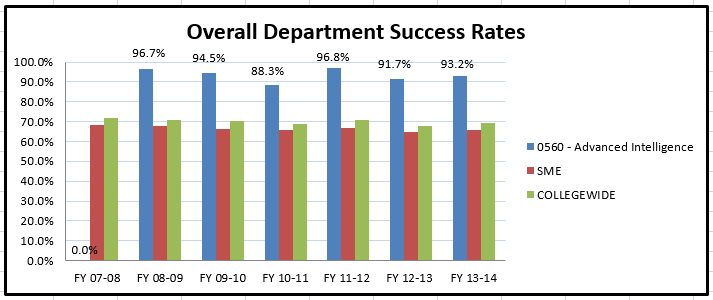
The completions from 10-11 to 11-12 stayed the same at 50. The previous years were higher except for 08-09. The data for completion follows enrollment. Enrollment for 09-10 was 270, for 10-11 was 250, for 11-12 was 250. The completion for 12-13 was forecasted to stay the same at 50. The completions for 2012-2013 was 28 which is well below expected for that year. In investigating it was discovered that a number of our completions were not captured. It was found that if students do not declare their major properly (especially for certificates) they are not captured as completing. I identified some students that were missing and had them given credit for completing. The program needs to increase enrollment through high school visits, Tech. Fest, Engineer day, and other venues reach young students. Also the department needs to improve the completion percentage. An increase in individual course success rates in the lower level courses is really needed. There has been a special effort by the EET faculty to advice students every semester for continuity in their learning.

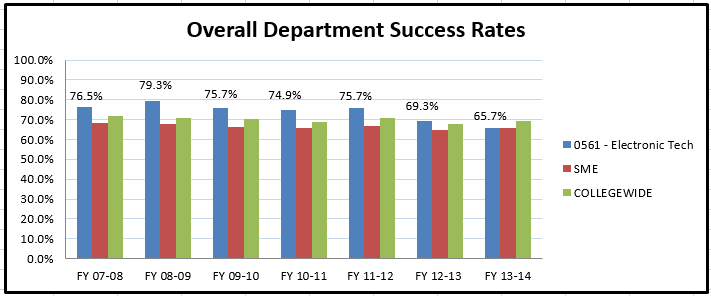
EET program has major sequences, EET 1116-1150-1155; EET 1131-2252 and EET 1164-2264, EET 2281-2282 culminating in the capstone course EET 2278. Advising student to complete a sequence in successive semesters really helps them retain knowledge and skills to be more successful in subsequent courses. Also there is a good deal of cross learning in EET 2252-2261. These observations are based on student feedback as well as analysis done for the recent TAC/ABET\* accreditation visit in October 2010. Enrollment is up slightly this year. Our challenge is to get those students to completion through advising and student support. Faculity advisors are being assigned to students to support Student Advising. The EET Resource Center provides a place for students to work on class assignments and get help. A Lab assistant and all the equipment are available 10 hours a day to help the students.

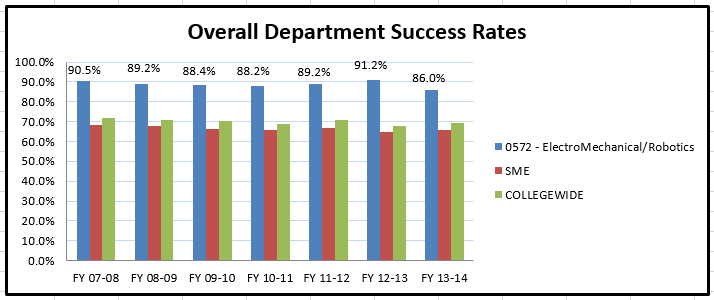
ACT

ACT program is one of the most advanced and up-to-date robotics programs serving the needs of local and surrounding area industries. ACT graduates are employed very quickly after graduation and the program has proven to be an excellent retraining program for displaced workers. This explains the increase in enrollment Fall 2009. Large number of students who graduated was funded by special programs like TAA. Today we still receive a few but nothing like the influx we had when GM and Delphi closed. We are seeing a few from Appleton Paper. The completion for FY 12- 13 was 17. This decline is due to a number of reasons. 1) When Sinclair switched from quarter to semesters one to the short term certificate programs was not converted (Industrial Robot Technician). This has been changed in CMT. 2) Most of the displaced workers have finished up and 3) The community’s mindset is that manufacturing is dead. We should see an upturn in completion again for two reasons. 1) The manufacturing sector is growing. It is coming back strong in the non-automotive related sector. It is growing in Ohio, in Dayton, and in the Northern Cincinnati area. This year we have started offering the Industrial Maintenance Technician Certificate at the Courseview Campus. The department receives 2 to 3 requests a week for students and graduates. Industry in the area is desperate for skilled people. 2) The enrollment is up this semester. Enrollment positive trend has continued due to the special efforts of the faculty, who have established excellent partnerships with local high schools by offering college level courses through Tech Prep, Project Lead the Way and Quick Start programs. Every quarter EGR courses are being offered at Centerville, Kettering-Fairmont, and Miami Valley CTC and Stebbins high schools. These partnerships will help the program gain active students in the ACT program. We continue to search for new ways to bring more students into the program.

**Course Success Trend Data – OVERALL SUMMARY**







Please provide an interpretation and analysis of the Course Success Trend Data (Raw Data is located in Appendix A). Looking at the success rate data provided in the Appendix for each course, please discuss trends for high enrollment courses, courses used extensively by other departments, and courses where there have been substantial changes in success.

ATI

The success rate data for Advanced Technical Intelligence is high for the past and would expect the success rate to remain very high in the future. The rate is high for several reasons. There is a $495 lab fee associated with all ATI courses in addition to Sinclair's tuition. Students are making a considerable financial commitment when they start these classes therefore they tend to do well. Many of the students are either retired or ex-military Secondly, a Background Check is completed before starting EGR 1121 and for ERG 1211 and EGR 1112, a Top Security Clearance is required. Only serious students start and complete this program.

EET

The success rate for Electronics is about the same as the SME average and slightly lower than the college average. As with the SME and college the averages have not changed over the past few years. The Electronics department averages have dropped over the last few years. There are a number of factors influencing the success average. The electrical apprentice courses (EET 1181, 1182, 1183, 1184) always do well pushing the average up. The supporting data shows that the 1000 courses are below the college average and the 2000 courses are above the college average. Some students in entry level courses will struggle with the course and either withdraw, stop coming to class or receive a poor grad. In the upper level courses the students have developed more experience in college and have developed a keen interest in the material. We need to do a better job of identifying the students that are at risk in the lower level courses, and then provide counseling and support. Faculty are being assigned to student to advise and council.

ACT

The success rate for Automation and Controls with Robotics is about 22% higher than the SME average and 16% higher than the college average. As with the SME and college averages, the ACT department average has not changed over the past few years. This past year show a slight drop. The entry level courses again show weaker performances with the student either withdrawing or receiving a poor grade. The "C" and "C++" programming course EGR 2261 is course that students find difficult. We have changed instructors for this class and would expect the success rate to improve. The new instructor has taught other classes for us and is very good. We now have a full time lab tech and a new full time faculty has joined the department. This gets the dept. back to fully staffed which will provide stability and support for the students.

Please provide any additional data and analysis that illustrates what is going on in the department (examples might include accreditation data, program data, benchmark data from national exams, course sequence completion, retention, demographic data, data on placement of graduates, graduate survey data, etc.)

ATI

Tim Shaw, Special Agent FBI (Retired),Vice President of Strategic Development, Advanced Technical Intelligence Center supplied the following data regarding graduates from the ATI program. ATIC does this program for Clark State as well as Sinclair and the data was not separated. “Our most recent survey indicates that we have had 279 students and 148 responded to our survey regarding employment. 78% are employed, 63 responded they were in a degree program for 43%.”

EET

The program is TAC/ABET accredited. We are taking an international assessment test provided by IEEE given to EE and EET students after their second year. We are in our third year of taking the test and so far with a small sample we rank at the international average. We will continue to take the test in our capstone course to supply information on how we compare in various topics of study. This year we are working on an articulation agreement with Miami University.

ACT

Most all ACT students are employed prior to or upon graduation. Our department receives two to three inquiries a week from employer. We do not have enough graduates to meet there demand. These are companies looking to hire student in our programs part time or recent graduates full time. Miami University Hamilton campus has started a Bachelor’s degree in Automation and Control.

**Section II: 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.

|  |  |  |
| --- | --- | --- |
| **GOALS** | **Status** | **Progress or Rationale for No Longer Applicable** |
| Series of core courses were implemented in the winter of 2010. | In progress  Completed  No longer applicable | All the programs were converted to semesters for Fall 2012. |
| With the completion of program realignment special attention was paid to make adjustments to course materials to better match the program outcomes. | In progress  Completed  No longer applicable | This was accomplished when all the programs were converted to semesters |
| Realigned the program to teach less history and more up to date technology by offering new courses as electives, EET 156-Alternate Energy Sources, EET 256-Fuel Cells, EET 157- RFID Technology. EET 281-PLCs was made a required course for the program due to the changing needs of the local industry and as recommended by the EET Advisory Committee. | In progress  Completed  No longer applicable | This was accomplished when all the programs were converted to semesters. All courses were reviewed. The material that was not relevant today was removed and new material introduced. Technical electives continue to change. RFID and NANO technology are offered as well as Advanced PLCs. We will continue to recruit new members to our advisory committee to review our curriculum and to plan for the future. This is an ongoing process. As technology changes we need to change with it. |

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.

|  |  |  |
| --- | --- | --- |
| **RECOMMENDATIONS** | **Status** | **Progress or Rationale for No Longer Applicable** |
| No report or comments could be found for reporting. | In progress  Completed  No longer applicable | This report completes the requirement. |

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| --- | --- |
| Please respond to the following items regarding external program accreditation. | |
| **Date of Most Recent Program Accreditation Review** | Date of most recent accreditation review: \_\_\_\_\_2010\_\_\_\_\_\_\_\_  **OR**  Programs in this department do not have external accreditation |
| **Please describe any issues or recommendations from your last accreditation review (if applicable)** |  |
| **Please describe progress made on any issues or recommendations from your last accreditation review (if applicable)** |  |

**Section III: 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 NEXT TWO YEARS, GENERAL EDUCATION OUTCOME ASSESSMENT WILL BE 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 THREE GENERAL EDUCATION OUTCOMES:**

* **CRITICAL THINKING/PROBLEM SOLVING**
* **INFORMATION LITERACY**
* **COMPUTER LITERACY**

**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 THESE GENERAL EDUCATION COMPETENCIES IF YOU HAVE THEM, BUT IT WILL BE CONSIDERED OPTIONAL**.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **General Education Outcomes** | To which degree(s) is this program outcome related? | Year courses identified where mastery of general education competency will be assessed. | PLEASE INDICATE AT LEAST ONE COURSE WHERE MASTERY OF THE COMPETENCY WILL BE ASSESSED FOR EACH OF YOUR DEGREE PROGRAMS | What were the assessment results for this General Education competency?  (Please provide brief summary data)  **NOTE: - THIS IS OPTIONAL FOR THE FY 2014-15 AND FY 2015-16 ANNUAL UPDATES** |
| Critical Thinking/Problem Solving | | All programs | **2014-2015** |  |  |
| Information Literacy | | All programs | **2014-2015** |  |  |
| Computer Literacy | | All programs | **2014-2015** |  |  |
| Values/Citizenship/Community | | All programs | **2015-2016** | Due in FY 2015-16 |  |
| Oral Communication | | All programs | **N/A** | COM 2206/2211 |  |
| Written Communication | | All programs | **N/A** | ENG 1101 |  |
| Are changes planned as a result of the assessment of general education outcomes? If so, what are those changes | | **OPTIONAL FOR FY 2014-15** | | | |
| How will you determine whether those changes had an impact? | | **OPTIONAL FOR FY 2014-15** | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **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) |
| Use software packages to simulate, analyze and develop schematics and layouts of electronic circuits. Write technical reports and work in groups. | SCC 1101,  EET1116, EET1150,  EET1155, EET1131,  ENG 1101,  COM 2211 | 2012-2013 | Testing,  Graded lab reports, Group projects | In EET 1116 MultiSim software is introduced to the students and used on multiple assignments that are graded. In EET 1150 and EET 1155 the software is used to virtually verify the students design and provide drawing and data to include in their reports. By evaluating the assessment the content of EET 1116 can be altered to have students proficient in MultiSim when they arrive in the other two classes. |
| Maintain and upgrade hardware and software. Maintain communication links and network systems with peripheral devices and other networks. Install and troubleshoot engineering hardware on a PC system. | EET1164, EET2264, EET2261, EET2278,  CIS1107,  CIS1130 | 2012-2013 | Professional journal articles, Survey other Colleges, Conferences and shows, feedback from department’s advisory board | Identified the need to upgrade microprocessors form HC11 to HC12 in EET 2261. The need to update the network and software in in EET 1164. Upgrades were made in 2012-2013. Additional upgrades for EET 2261 will be made in 2013-2014. |
| Apply the principles of electronics on the job to solve electronic problems either through analysis or through an actual hardware solution.  Solve electronic circuit problems, perform lab exercises and apply skills and knowledge in a capstone project. | EET1150, EET1155,  EET2201, EET2261,  MAT 1280  MAT 1290  PHY 1131,  EET2278 | 2016 - 2017 |  |  |
| Demonstrate a commitment to address professional and ethical responsibilities, including a respect for diversity; impact of engineering technology solutions in a societal and global context. | ENG 1101,  COM 2211,  OTM (Arts/Humanities),  OTM (Social/Behavioral) | 2013-2014 |  |  |
| Apply principles of DC and AC circuits, analog and digital electronics, microcontroller fundamentals and circuit assembly for analysis, basic design, circuit simulation, problem solving, assembly, troubleshooting and repair of electrical and electronic systems. | SCC 1101, EET1150, EET1155, EET1131, EET2201, EET2261, EET 2270 | 2015-2016 |  |  |
| Apply principles of mathematics and physics to solve engineering technology problems. | EET1150, EET1155, EET2201,  MAT 1280,  MAT 1290,  PHY 1131 | 2014-2015 | Class assignments graded test, laboratory assignments and homework. | Assessment results: 80% master the various aspects of power of ten and engineering notation, 90% master Ohm’s law, 80% master series and parallel circuit analysis, 80% master Kirchoff’s voltage and current laws, 70% master basic complex circuit analysis. |
| Demonstrate programming skills using a graphical language, assembly language or ladder logic to create computer solutions of engineering problems. | EET 1164,  EET2259, EET2281,  EET2261 | 2014-2015 | For EET 2259 & EET 2261 Pre test and post test | EET 2259 Pre/Post  LabVIEW (VIs) 85.71/85.71%  Editing & debugging 14.29/100.00%  Datatypes 28.57/100.00%  Sub-VIs 28.57/57.14%  Structures 0.00/100.00%  Arrays & Clusters 42.86/85.71%  Charts & Graphs 2.86/71.43%  EET 2261 Pre/Post  Microprocessor arch. 7.69/75.00%  Assembly language prog. 0.00/83.33%  Bus structures and timing 7.69/50.00%  Input/output interface 0.00/66.67%  Interrupt-processed I/O 0.00/83.33%  Microcontroller appl. 38.46/83.33%  Microprocessor-based comm.7.69/66.67% |
| Demonstrate a commitment to address professional and ethical responsibilities, including a respect for diversity; impact of engineering technology solutions in a societal and global context. | ENG 1101,  COM 2211,  OTM (Arts/Hum),  OTM (Soc/Beh) | 2013-2014 |  |  |
| Conduct simple mechanical repairs on typical electromechanical systems, from replacing wiring, fluid power valving, piping, electromechanical devices, and other items that were original to the equipment, to installing new system modifications, then returning the system to operational specifications. | SCC 1101, EGR 1128, EGR 1217, EET 1166, EGR 2231, EGR 2244 | 2016 - 2017 |  |  |
| Diagnose electronic system problems using appropriate test instrumentation, schematics, and technical reference manuals and determine if fault is electrical, electronic, software, or mechanical in nature. Recommend appropriate repair process and initiate repair. | EET 1120, EET 1198,  EET 1139, EET 1166, EET 2281, EET 2282, EGR 2231 | 2014-2015 | EET 1120 Laboratory experiments diagnosing a pre-set but undisclosed fault in an assembly. Software aspects and repair are outside of course scope.  EET 1166 Project is to build a functioning electrical panel. | EET 1120: 20% of 30 students were unable to complete satisfactorily. 50% showed adequate performance. 20% completed all successfully. Results are directly influenced by amount of related prior or current job or academic experience. Scaffolding can be used to improve success rate.  EET 1166 80% of the time it does not work the first time. Students are given schematics, tools, and test equipment and spare part to make the repair. |
|  |  |  |  |  |
| Repair electrical and electronic systems, from devices, subsystems, wiring/cabling to circuit board level, and return to correct operation after testing. | EET 1166, EGR 2231, EGR 2244 | 2012-2013 | Tests, labs, recommendations for department’s advisory board. | Students needed better troubleshooting skills. The New software assesses the students speed and accuracy in troubleshooting virtual electric circuits, in all three courses “bugs” are placed in actual industrial panels, circuits, and equipment. |
| Integrate electronic control equipment into typical small CIM environment so that overall system performs to specification. Equipment includes: discrete devices, PLCs, sensors, robot application programming, communication hardware/software, and computer related hardware. | EET 1198, MAT 1280, MAT 1290, EET 1166, EET 2281, EET 2282, EGR 2278 | 2016-2017 |  |  |
| Integrate into work cell the appropriate Fanuc robot for the application. Select necessary end-of-arm tooling, and develop/edit motion control program for the application, using available software features and/or options. | PHY 1131,  EGR 1144, EGR 2252,  EGR 2270, EGR 2278 | 2016-2017 |  |  |
| Demonstrate knowledge of collection and analysis methodology for intelligence from various sources. | EGR 1121,  EGR 1122,  EGR 2270 | 2014-2015 | Homework assignments have the student through experiential learning show and demonstrate they understated the concepts and exams. | The ATI courses EGR 1121 and EGR 1122 have a very high success rate of 91% for FY 12-13 and 100% for FY 13-14 |
| Demonstrate understanding of various aspects of phenomenology of radar and non-imaging radar systems. | EGR 1201,  EGR 1202  EGR 1211 | 2015-2016 |  |  |
| Demonstrate understanding of geophysical, materials, nuclear radiation and radio frequency. | EGR 1212,  GEO 1107 | 2015-2016 |  |  |
| Apply principles of physics, chemistry and mathematics to analyze technical data. | MET 1131, OPT 1198, EET 1158, MAT 1280, MAT 1290, PHY 1104, PHY 1131 | 2013-2014 | Labs, quizzes and exams | Math and physics apply more to analyzing data than does chemistry in our programs. Math success rate in MAT 1280 and MAT1290 are running around 62% while PHY 1131 is running 71% and PHY 1104 is running 81%. A strong math base contributes to the success in the physics courses. EET 1158 success rate is 92%. Good strong math and physics skills contribute to the high success rate of this class. |
| Demonstrate and communicate knowledge of international relations. | ENG 1101, COM 2211, PLS 2220,  HIS 2219, PHI 2207 | 2015-2016 |  |  |

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| **Are changes planned as a result of the assessment of program outcomes? If so, what are those changes?** | In the EET program more hands on and more visual (light) components will be added to EET1120 labs to improve success. In EGR 2231 additional troubleshooting software modules will be added to improve the student’s problem solving skills. In ERG 1128 RoboGuide by Fanuc Robotics will replace RoboCell for robotics simulation in the course. One section tested it in the 2015 Spring semester and the students picked it up quickly. RoboGuide will then be used in EGR 2252 for programming Fanuc robots. |

**APPENDIX – PROGRAM COMPLETION AND SUCCESS RATE DATA**

**Degree and Certificate Completion**

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Division | Department | Department Name | Program | FY 07-08 | FY 08-09 | FY 09-10 | FY 10-11 | FY 11-12 | FY 12-13 | FY 13-14 |
| SME | 0560 | Advanced Intelligence | ATI.ATS | . | . | . | 1 | 5 | 4 | 2 |
| SME | 0560 | Advanced Intelligence | ATI.S.ATS | . | . | . | . | . | . | 1 |
| SME | 0560 | Advanced Intelligence | ATI.S.STC | . | . | . | . | . | . | 5 |
| SME | 0560 | Advanced Intelligence | ATI.STC | . | . | 31 | 23 | 27 | 2 | 2 |
| SME | 0561 | Electronic Tech | CETT.AAS | . | . | 1 | 2 | . | 5 | 1 |
| SME | 0561 | Electronic Tech | CETT.S.AAS | . | . | . | . | . | 3 | 3 |
| SME | 0561 | Electronic Tech | DS.S.STC | . | . | . | . | . | 10 | 7 |
| SME | 0561 | Electronic Tech | DS.STC | 34 | 13 | 37 | 22 | 15 | 1 | . |
| SME | 0561 | Electronic Tech | ECET.AAS | 11 | 2 | 2 | . | . | . | . |
| SME | 0561 | Electronic Tech | ECTO.AAS | . | . | . | 1 | . | . | . |
| SME | 0561 | Electronic Tech | EER.CRT | 2 | 1 | . | . | . | . | . |
| SME | 0561 | Electronic Tech | EET.AAS | 13 | 14 | 19 | 24 | 26 | 5 | 1 |
| SME | 0561 | Electronic Tech | EET.S.AAS | . | . | . | . | . | 4 | 7 |
| SME | 0561 | Electronic Tech | EETEC.S.STC | . | . | . | . | . | . | 3 |
| SME | 0561 | Electronic Tech | EETEC.STC | . | . | . | . | 6 | . | . |
| SME | 0561 | Electronic Tech | EETP.AAS | . | . | 1 | . | . | . | . |
| SME | 0561 | Electronic Tech | ELTR.S.ATS | . | . | . | . | . | 1 | 1 |
| SME | 0561 | Electronic Tech | EREC.STC | 22 | 17 | . | 1 | 1 | . | . |
| SME | 0561 | Electronic Tech | RFID.STC | . | . | . | . | 7 | . | . |
| SME | 0562 | Mechanical Technologies | QCT.AAS | . | . | 1 | . | . | . | . |
| SME | 0572 | ElectroMechanical/Robotics | AMCT.AAS | 3 | 6 | 12 | 10 | 12 | 6 | 1 |
| SME | 0572 | ElectroMechanical/Robotics | AMCT.S.AAS | . | . | . | . | . | 5 | 3 |
| SME | 0572 | ElectroMechanical/Robotics | INDMT.S.STC | . | . | . | . | . | . | 3 |
| SME | 0572 | ElectroMechanical/Robotics | INDMT.STC | 1 | 7 | 16 | 9 | 13 | 4 | 1 |
| SME | 0572 | ElectroMechanical/Robotics | IRT.STC | 1 | 8 | 7 | 11 | 4 | 2 | . |

**Course Success Rates**

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Department** | **Department Name** | **Course** |  | **FY 07-08** | **FY 08-09** | **FY 09-10** | **FY 10-11** | **FY 11-12** | **FY 12-13** | **FY 13-14** |
| 0560 | Advanced Intelligence | EGR-1121 |  | . | . | . | . | . | 90.9% | 100.0% |
| 0560 | Advanced Intelligence | EGR-1122 |  | . | . | . | . | . | 90.9% | 100.0% |
| 0560 | Advanced Intelligence | EGR-1201 |  | . | . | . | . | . | . | 88.9% |
| 0560 | Advanced Intelligence | EGR-1202 |  | . | . | . | . | . | . | 77.8% |
| 0560 | Advanced Intelligence | EGR-1211 |  | . | . | . | . | . | . | 100.0% |
| 0560 | Advanced Intelligence | EGR-1212 |  | . | . | . | . | . | . | 100.0% |
| 0560 | Advanced Intelligence | SME-121 |  | . | 97.8% | 97.8% | 90.5% | 100.0% | . | . |
| 0560 | Advanced Intelligence | SME-122 |  | . | 95.5% | 95.0% | 77.8% | 100.0% | . | . |
| 0560 | Advanced Intelligence | SME-201 |  | . | . | 89.5% | 96.6% | 100.0% | . | . |
| 0560 | Advanced Intelligence | SME-202 |  | . | . | 89.5% | 87.1% | 96.7% | . | . |
| 0560 | Advanced Intelligence | SME-211 |  | . | . | 100.0% | 100.0% | 96.4% | 100.0% | . |
| 0560 | Advanced Intelligence | SME-212 |  | . | . | 96.4% | 77.8% | 92.9% | 100.0% | . |
| 0561 | Electronic Tech | EET-1116 |  | . | . | . | . | . | 68.1% | 58.3% |
| 0561 | Electronic Tech | EET-1120 |  | . | . | . | . | . | 48.9% | 52.9% |
| 0561 | Electronic Tech | EET-1131 |  | . | . | . | . | . | 57.4% | 47.5% |
| 0561 | Electronic Tech | EET-1139 |  | . | . | . | . | . | 78.0% | 62.9% |
| 0561 | Electronic Tech | EET-114 |  | 52.6% | 76.4% | 53.2% | 59.6% | 56.5% | . | . |
| 0561 | Electronic Tech | EET-1150 |  | . | . | . | . | . | 55.6% | 51.6% |
| 0561 | Electronic Tech | EET-1155 |  | . | . | . | . | . | 60.9% | 64.7% |
| 0561 | Electronic Tech | EET-1158 |  | . | . | . | . | . | 61.5% | 93.3% |
| 0561 | Electronic Tech | EET-116 |  | 57.5% | 66.2% | 65.9% | 62.4% | 69.2% | . | . |
| 0561 | Electronic Tech | EET-1164 |  | . | . | . | . | . | 65.6% | 72.7% |
| 0561 | Electronic Tech | EET-1166 |  | . | . | . | . | . | 75.0% | 100.0% |
| 0561 | Electronic Tech | EET-1181 |  | . | . | . | . | . | 70.6% | 82.7% |
| 0561 | Electronic Tech | EET-1182 |  | . | . | . | . | . | 91.3% | 91.7% |
| 0561 | Electronic Tech | EET-1183 |  | . | . | . | . | . | 80.0% | 88.9% |
| 0561 | Electronic Tech | EET-1184 |  | . | . | . | . | . | 100.0% | 100.0% |
| 0561 | Electronic Tech | EET-119 |  | 71.7% | 67.9% | 58.1% | 57.1% | . | . | . |
| 0561 | Electronic Tech | EET-1198 |  | . | . | . | . | . | 63.6% | 47.1% |
| 0561 | Electronic Tech | EET-120 |  | . | . | . | 47.0% | 57.1% | 88.9% | . |
| 0561 | Electronic Tech | EET-131 |  | 32.4% | 78.6% | 67.5% | 74.0% | 67.6% | . | . |
| 0561 | Electronic Tech | EET-139 |  | 82.8% | 96.8% | 88.9% | 90.7% | 100.0% | . | . |
| 0561 | Electronic Tech | EET-150 |  | 46.5% | 73.9% | 64.5% | 65.0% | 46.8% | 100.0% | . |
| 0561 | Electronic Tech | EET-155 |  | 77.8% | 86.4% | 68.8% | 71.4% | 76.0% | . | . |
| 0561 | Electronic Tech | EET-156 |  | 60.0% | 64.3% | 63.2% | 75.0% | 61.1% | . | . |
| 0561 | Electronic Tech | EET-157 |  | . | . | . | 100.0% | 100.0% | . | . |
| 0561 | Electronic Tech | EET-158 |  | . | . | . | 88.2% | 93.8% | 64.3% | . |
| 0561 | Electronic Tech | EET-159 |  | 77.8% | 80.0% | 87.8% | 85.7% | 78.6% | . | . |
| 0561 | Electronic Tech | EET-164 |  | . | 64.0% | 65.2% | 73.2% | 58.9% | . | . |
| 0561 | Electronic Tech | EET-166 |  | 87.5% | 100.0% | 96.7% | 88.9% | 100.0% | . | . |
| 0561 | Electronic Tech | EET-181 |  | 85.2% | 89.5% | 87.5% | 76.7% | 81.8% | . | . |
| 0561 | Electronic Tech | EET-182 |  | 95.2% | 95.7% | 95.3% | 100.0% | 68.8% | . | . |
| 0561 | Electronic Tech | EET-183 |  | 98.2% | 95.0% | 100.0% | 96.4% | . | . | . |
| 0561 | Electronic Tech | EET-184 |  | 100.0% | 98.0% | 100.0% | 96.0% | 100.0% | . | . |
| 0561 | Electronic Tech | EET-198 |  | 72.9% | 68.1% | 78.4% | 77.5% | 85.3% | 100.0% | . |
| 0561 | Electronic Tech | EET-201 |  | 58.6% | 72.2% | 91.2% | 80.0% | 100.0% | . | . |
| 0561 | Electronic Tech | EET-202 |  | 94.7% | 100.0% | . | . | . | . | . |
| 0561 | Electronic Tech | EET-205 |  | 94.1% | . | . | . | . | . | . |
| 0561 | Electronic Tech | EET-207 |  | 100.0% | 100.0% | 87.5% | 92.3% | 100.0% | . | . |
| 0561 | Electronic Tech | EET-2157 |  | . | . | . | . | . | . | 75.0% |
| 0561 | Electronic Tech | EET-220 |  | . | . | . | . | 80.0% | . | . |
| 0561 | Electronic Tech | EET-2201 |  | . | . | . | . | . | 75.0% | 50.0% |
| 0561 | Electronic Tech | EET-2220 |  | . | . | . | . | . | 50.0% | . |
| 0561 | Electronic Tech | EET-2259 |  | . | . | . | . | . | 100.0% | 75.0% |
| 0561 | Electronic Tech | EET-2261 |  | . | . | . | . | . | 84.2% | 54.2% |
| 0561 | Electronic Tech | EET-2264 |  | . | . | . | . | . | 88.2% | 84.6% |
| 0561 | Electronic Tech | EET-2270 |  | . | . | . | . | . | . | 71.4% |
| 0561 | Electronic Tech | EET-2278 |  | . | . | . | . | . | 75.0% | 100.0% |
| 0561 | Electronic Tech | EET-2281 |  | . | . | . | . | . | 87.5% | 90.7% |
| 0561 | Electronic Tech | EET-2282 |  | . | . | . | . | . | 85.7% | 100.0% |
| 0561 | Electronic Tech | EET-2283 |  | . | . | . | . | . | . | . |
| 0561 | Electronic Tech | EET-231 |  | 87.5% | . | . | . | . | . | . |
| 0561 | Electronic Tech | EET-251 |  | 54.9% | 88.4% | 83.9% | 90.7% | 65.9% | . | . |
| 0561 | Electronic Tech | EET-252 |  | 100.0% | 93.8% | 94.9% | 80.0% | 89.5% | . | . |
| 0561 | Electronic Tech | EET-256 |  | 80.0% | 100.0% | 100.0% | . | . | . | . |
| 0561 | Electronic Tech | EET-257 |  | . | . | . | . | 87.5% | . | . |
| 0561 | Electronic Tech | EET-259 |  | 75.0% | . | . | . | . | . | . |
| 0561 | Electronic Tech | EET-261 |  | 93.8% | 93.1% | 93.5% | 74.1% | 84.0% | . | . |
| 0561 | Electronic Tech | EET-262 |  | 89.5% | 100.0% | 96.6% | 89.7% | 96.0% | . | . |
| 0561 | Electronic Tech | EET-264 |  | 61.5% | 90.0% | 100.0% | 90.0% | 64.7% | . | . |
| 0561 | Electronic Tech | EET-265 |  | 84.6% | . | 85.7% | 100.0% | 87.5% | . | . |
| 0561 | Electronic Tech | EET-270 |  | 88.9% | 100.0% | 100.0% | 100.0% | 100.0% | . | . |
| 0561 | Electronic Tech | EET-278 |  | 100.0% | 100.0% | 100.0% | 84.6% | 95.8% | . | . |
| 0561 | Electronic Tech | EET-281 |  | 96.3% | 87.0% | 87.2% | 89.6% | 91.5% | 100.0% | . |
| 0561 | Electronic Tech | EET-282 |  | 60.0% | 82.6% | 82.1% | 82.1% | 100.0% | . | . |
| 0561 | Electronic Tech | EET-283 |  | . | . | . | 100.0% | 100.0% | . | . |
| 0561 | Electronic Tech | EET-284 |  | 100.0% | . | . | . | . | . | . |
| 0561 | Electronic Tech | EET-297 |  | 94.5% | 50.0% | 95.2% | . | 100.0% | . | . |
| 0561 | Electronic Tech | EGR-1101 |  | . | . | . | . | . | 80.0% | 67.5% |
| 0561 | Electronic Tech | SME-101 |  | . | 83.3% | 61.0% | 71.4% | 78.3% | . | . |
| 0572 | ElectroMechanical/Robotics | EGR-100 |  | 60.0% | 68.2% | 73.3% | 72.1% | 73.1% | . | . |
| 0572 | ElectroMechanical/Robotics | EGR-1111 |  | . | . | . | . | . | . | 100.0% |
| 0572 | ElectroMechanical/Robotics | EGR-1128 |  | . | . | . | . | . | 89.3% | 76.3% |
| 0572 | ElectroMechanical/Robotics | EGR-1144 |  | . | . | . | . | . | . | 100.0% |
| 0572 | ElectroMechanical/Robotics | EGR-1217 |  | . | . | . | . | . | 88.9% | 88.9% |
| 0572 | ElectroMechanical/Robotics | EGR-128 |  | 86.3% | 84.9% | 83.5% | 73.0% | 83.3% | . | . |
| 0572 | ElectroMechanical/Robotics | EGR-132 |  | 84.7% | 100.0% | . | . | . | . | . |
| 0572 | ElectroMechanical/Robotics | EGR-144 |  | 88.2% | 100.0% | 96.1% | 93.6% | 93.0% | . | . |
| 0572 | ElectroMechanical/Robotics | EGR-161 |  | 86.1% | 82.4% | 83.0% | 85.4% | 81.0% | . | . |
| 0572 | ElectroMechanical/Robotics | EGR-164 |  | 100.0% | . | . | . | . | . | . |
| 0572 | ElectroMechanical/Robotics | EGR-210 |  | 90.9% | 100.0% | 84.6% | 91.7% | 91.3% | 100.0% | . |
| 0572 | ElectroMechanical/Robotics | EGR-217 |  | 100.0% | 95.7% | 100.0% | 100.0% | 93.8% | . | . |
| 0572 | ElectroMechanical/Robotics | EGR-220 |  | 100.0% | 100.0% | 100.0% | 93.3% | 100.0% | . | . |
| 0572 | ElectroMechanical/Robotics | EGR-2231 |  | . | . | . | . | . | 100.0% | 87.5% |
| 0572 | ElectroMechanical/Robotics | EGR-2244 |  | . | . | . | . | . | 100.0% | 100.0% |
| 0572 | ElectroMechanical/Robotics | EGR-2252 |  | . | . | . | . | . | 78.6% | 100.0% |
| 0572 | ElectroMechanical/Robotics | EGR-2261 |  | . | . | . | . | . | 85.7% | 93.8% |
| 0572 | ElectroMechanical/Robotics | EGR-2270 |  | . | . | . | . | . | 100.0% | 83.3% |
| 0572 | ElectroMechanical/Robotics | EGR-2278 |  | . | . | . | . | . | 90.0% | 100.0% |
| 0572 | ElectroMechanical/Robotics | EGR-2297 |  | . | . | . | . | . | 95.3% | 95.0% |
| 0572 | ElectroMechanical/Robotics | EGR-231 |  | 89.5% | 100.0% | 96.3% | 100.0% | 71.4% | . | . |
| 0572 | ElectroMechanical/Robotics | EGR-232 |  | 100.0% | 100.0% | 100.0% | 90.5% | 100.0% | . | . |
| 0572 | ElectroMechanical/Robotics | EGR-244 |  | 100.0% | 100.0% | 88.9% | 100.0% | 85.7% | . | . |
| 0572 | ElectroMechanical/Robotics | EGR-250 |  | 100.0% | 100.0% | 90.9% | 100.0% | 75.0% | . | . |
| 0572 | ElectroMechanical/Robotics | EGR-251 |  | . | 100.0% | 100.0% | 80.0% | 100.0% | . | . |
| 0572 | ElectroMechanical/Robotics | EGR-252 |  | 78.6% | 92.0% | 65.5% | 70.6% | 80.0% | . | . |
| 0572 | ElectroMechanical/Robotics | EGR-255 |  | 100.0% | 100.0% | 100.0% | 100.0% | 92.3% | . | . |
| 0572 | ElectroMechanical/Robotics | EGR-261 |  | 100.0% | 89.5% | 96.3% | 100.0% | 86.7% | . | . |
| 0572 | ElectroMechanical/Robotics | EGR-262 |  | 80.0% | 100.0% | 80.0% | 66.7% | . | . | . |
| 0572 | ElectroMechanical/Robotics | EGR-270 |  | 93.3% | 100.0% | 100.0% | 95.2% | 100.0% | 85.7% | . |
| 0572 | ElectroMechanical/Robotics | EGR-278 |  | 100.0% | 100.0% | 100.0% | 94.4% | 83.3% | 100.0% | . |
| 0572 | ElectroMechanical/Robotics | EGR-297 |  | 98.4% | 91.3% | 94.9% | 100.0% | 98.7% | 100.0% | . |