



Department/Program:	School of Applied Technology (Skills Center) Electronics Department/Electronic Assembly Technician
Department/Program Mission Statement:	This program provides: (1) an entry point into the field of electronics, (2) industry certification, (3) an orientation towards the disadvantaged population, (4) an orientation towards the needs of local industry, community, and government, and students, and (5) courses that match and articulate to the two-year Electronics Technology program at Salt Lake Community College for students that decide to further their electronics education.
Person Responsible for Assessment Plan:	Richard Hemingway
Date:	February 26, 2009

Program Level Student Learning Outcome	Assessment Methods/ Measures <i>How and when will the data be collected? What students will be assessed?</i>	Set Performance Target/Benchmark <i>How well should students be able to do on the assessment?</i>	Interpretation of Results/Findings <i>What does the data show?</i>	Use of Results <i>What changes were made after reviewing the results? How will you follow-up to measure improvement?</i>
1. Demonstrate proficiency in through-hole assembly, soldering, and rework	<p>School of Applied Technology programs/ courses are non-credit and are presented in an open-entry, open-exit, competency-based format.</p> <p>All students are evaluated near the completion of each course with a final written exam and a final practical exam . The aggregate data (from a number of student results will be evaluated semiannually.</p> <p>Data will be collected via written examinations, instructor review of practical (assembly and soldering)</p>	<p>Students must achieve a grade of 80% on each written examination in order to progress to the next learning module. Students must achieve a score of 80% on the final written examination.</p> <p>Students must achieve a grade of 80% on each laboratory assignment and must complete a final hands-on examination which shall consist of assembly, soldering, and rework of a final through-hole project. The final project must be completed with at least 50% of the 'opportunities' (as defined by IPC) evaluated as</p>	<p>Data will be evaluated by comparison over time of the results of written examinations and practical examinations with previous results using the same criteria. The practical examinations will use the definition of IPC 610 'target' standards as the goal for all students.</p>	<p>. It is too soon to assess the implemented improvement. Future evaluation will suggest change sand these changes will be measured to insure improvement.</p> <p>In order to better monitor results, computerized written test results have been implemented.</p>

Program Level Student Learning Outcome	Assessment Methods/ Measures <i>How and when will the data be collected? What students will be assessed?</i>	Set Performance Target/Benchmark <i>How well should students be able to do on the assessment?</i>	Interpretation of Results/Findings <i>What does the data show?</i>	Use of Results <i>What changes were made after reviewing the results? How will you follow-up to measure improvement?</i>
	<p>examinations, and the data will be recorded in electronic means, initially in a spreadsheet file. The data may be moved to a database file as experience with the data and evaluation techniques evolves.</p>	<p>'Target' and <u>no</u> opportunities evaluated less than 'Acceptable'. The terms Target and Acceptable are defined by IPC.</p>		
<p>2. Demonstrate proficiency in surface-mount technology assembly, soldering, and rework</p>	<p>All students are evaluated near the completion of each course with a final written exam and a final practical exam . The aggregate data (from a number of student results) will be evaluated semiannually.</p> <p>Data will be collected via written examinations, instructor review of practical (assembly and soldering) examinations, and the data will be recorded in electronic means, initially in a spreadsheet file. The data may be moved to a database file as experience with the data and evaluation techniques evolves.</p>	<p>Students must achieve a grade of 80% on each written examination in order to progress to the next learning module. Students must achieve a score of 80% on the final written examination.</p> <p>Students must achieve a grade of 80% on each laboratory assignment and must complete a final hands-on examination which shall consist of assembly, soldering, and rework of a final surface-mount technology (SMT) project.</p> <p>The final project must be completed with at least 50% of the 'opportunities' (as defined by IPC) evaluated as 'Target' and <u>no</u> opportunities evaluated less than 'Acceptable'. The terms Target and Acceptable are defined by IPC.</p>	<p>Data will be evaluated by comparison over time of results of written examinations and practical examinations with previous results using the same criteria. The practical examinations will use the definition of IPC 610 'target' standards as the goal for all students.</p>	<p>It is too soon to assess the implemented improvement. Future evaluation will suggest change sand these changes will be measured to insure improvement.</p> <p>In order to better monitor results, computerized written test results have been implemented.</p>

Program Level Student Learning Outcome	Assessment Methods/ Measures <i>How and when will the data be collected? What students will be assessed?</i>	Set Performance Target/Benchmark <i>How well should students be able to do on the assessment?</i>	Interpretation of Results/Findings <i>What does the data show?</i>	Use of Results <i>What changes were made after reviewing the results? How will you follow-up to measure improvement?</i>
3. Demonstrate proficiency in IPC 610 Accept/Reject Standards	<p>All students are evaluated near the completion of each course with a series of written exams. These exams shall be the IPC 610 Exam Series consisting of nine exams – one closed book exam and eight open exams. Two of these IPC exams are mandatory for certification and the remaining are elective. Students shall take all elective exams. Students must score 70% or better and may take the exams twice. If they fail a second time, student must attend lectures a second time. The aggregate data (from a number of student) results will be evaluated semiannually.</p>	<p>Students are expected to pass the mandatory and elective IPC10 six exams on the first attempt with the mandatory 70% rate. Students must score an average of 70% on the mandatory exams (one closed book exam and one open-book exam) below 60%. Students must score at least 70% on all elective exams.</p>	<p>The data has been reviewed and nearly all students that complete the program pass the certification exam. Data is still being reviewed to see how many students pass the first time. The department follows IPC lecture/exam requirements which has been successful. The time required to take the time will be monitored with a new computer system which can monitor test time</p>	<p>Spreadsheets are being used to monitor student scores, dates the examinations are taken, and the number of times the examinations are taken. Preliminary results are inconclusive but do suggest that the present method of traditional lectures with homework assignments are effective. The next step is the use of the standard on computer (in pdf format) where students can use the pdf search function to reduce the time taken by the exam. Computers have been installed in the Assembly Laboratory to implement this change. A grant will be prepared to fund licenses for the standard on computers</p>