I. INTRODUCTION

The Electronic Technology program is in the Industrial, Environmental and Graphic Arts Technologies Department, which is part of the Business, Career Studies and Technologies Division of Southwest Tennessee Community College.

The Electronic Technology Curriculum is a two-year college level career program leading to an Associate of Applied Science Degree. This applied science program has been in existence for thirty-three years. The program prepares students to enter directly into the job market as Electronic and Computer Service Technicians. From its inception the program was designed to train Electronic Maintenance technicians. The emphasis on electronic servicing shifted from the television, audio and communications equipment and now includes the microcomputer service market. Emphasis is placed on the use of test equipment, reading complex schematic diagrams, troubleshooting analog and digital systems. The program meets a clearly defined need providing students with the theory and practical, hands-on experience to function as Electronic Technicians.

Enrollment in the program has decreased from 50 in the fall semester of 2002 to 20 in the fall semester of 2008. However, student enrollment in the program is predicted to increase due to the addition of a certificate program offering within the program. In the fall semester of 2007, the Electronic Technology program’s Basic Electronics Technician certificate program was approved. There has been much interest in this certificate on the part of students and employers because the certificate can be completed in 2 semesters. All of the courses in the certificate will transfer directly into the degree program and is expected to directly affect the degree program in terms of increased enrollment and therefore graduation rates. At least two students have applied for graduation in the new certificate program for the spring semester of 2009.

Demographics are also expected to change because the area population is changing with the increase of Hispanics in the Memphis area. Also, more women are entering this field than in the past. Two full-time faculty members are assigned to the program with adjunct faculty teaching courses on an as-needed basis.

II. OVERALL PERFORMANCE

The program gauges overall quality of undergraduate programs based on feedback from several sources.

- Faculty use the Electronic Technology Advisory Committee to get feedback from the industry. They work closely with faculty to provide input on course content, needed job skills, and other important considerations. Advisory committee members often invite classes to tour their facilities to see first hand the work environment in which a technician will be placed.

- Students complete surveys (Individual Development & Education Assessment or IDEA) at the end of the semester for each class. Results of these student surveys...
are received by the faculty in the following semester. These surveys provide feedback on how well the instructor does, how adequate the facilities are, and what improvements might be made to increase teaching effectiveness.

- Faculty members have close ties with local companies that need employees and these companies provide feedback regarding what they are looking for in an employee.

- Individual faculty members and also the Southwest Tennessee Community College Career Services department have contact with graduates after graduation. The Career Services department provides help to students on writing resumes, finding jobs, and developing interviewing skills.

- Graduates are required to take the Electronic Technology major field exit exam. The exit exam is linked to program outcomes and provides feedback on the quality of the program.

The program’s strengths are:

- Dedicated, knowledgeable instructors, committed to the program and the students

- Classes that are offered on flexible day and night schedules to accommodate working students

- Students and faculty making industry connections through field trips

- A good blend of academics and technical studies

- Offering of the new Basic Electronic Technician Certificate

- Quality Equipment

The program’s weaknesses are:

- The need for more educational sponsorships for students by industry

- The need to promote internships to industry as a potential source of motivated employees and students

- The need to continuously review curriculum to keep course content current

- The need for faculty members to take advantage of training opportunities to broaden their exposure to new methods and materials
• Lack of equal involvement by all faculty members in the teaching and development of courses

• Lack of needed equipment in some courses

III. PERFORMANCE BY FOCAL AREA

The purpose of this section is to address education quality processes related to the Electronic Technology program at Southwest Tennessee Community College. This section will describe the processes in which faculty members draw upon evidence to assess strengths, weaknesses and needs associated with the program in an effort to produce, assure, and regularly improve the quality of teaching and learning. Initiatives and recommendations for improvement to address identified needs are also presented in each of the focal areas.

Focal Area 1: Learning Objectives

1.1. Process for Developing Program Learning Objectives

In developing the learning objectives for the Electronic Technology degree, faculty members were asked to identify objectives for each course they regularly teach. They were also charged with creating test questions that would assess the learning objectives. These questions then became part of the Electronic Technology exit exam that all graduates are required to take. The program also makes use of the Certified Electronic Technician (CET) exam, used by the Electronics Technicians Association to certify technicians in helping program faculty to identify key points and objectives. In addition, the Electronic Technology advisory committee was surveyed to determine the desired skills for employees entering the job market as technicians. Several members of the committee are actually former Electronic Technology graduates. These key advisory committee members who can provide feedback both as former students and also as industry advisors are invaluable to the Advisory Committee and the program. Learning objectives for each course are stated on each syllabus and are emphasized and assessed by program faculty.

1.2 Evidence-Based Learning Objectives

Data is collected to determine what students need from the Electronic Technology Advisory Committee, student surveys, employer surveys, and the CET exam. This data is analyzed to help make decisions about changes to the curriculum and learning outcomes. Changes and improvements are then made with regards to what employers want employees to know and what current technology or new technology demands. Decisions for changes are based on evidence.
1.3 Best Practices for Learning Objectives

Most faculty members share “best practices” regarding learning objectives with each other for the purpose of continual program improvement. Program faculty members are constantly searching for new topics, equipment, and technology to keep the curriculum meaningful and practical for the student and the employer. Using advisory committee feedback, the CET exam, and student and employer surveys, learning objectives are modified as needed. In 2007, the Federal Aviation Association conducted an extensive review of all course content in the Electronic Technology program and subsequently approved the curriculum for their employees.

Professional development goals are set by each faculty member each year and through numerous faculty development opportunities provided at the college are given opportunities to upgrade or enhance their teaching skills.

Improvement Needs for Focal Area 1

- The Electronic Technology advisory committee is composed of industry advisors that provide limited support in terms of hiring the students. There is a need for employers to participate in Cooperative Education or Internships for students in the program. Faculty will make a conscious effort to interact with members of the committee and other employers in the community to make them aware of the need to support the program in this way.

- While the degree specific exit exam is given to each student before graduation, the data is not used specifically for assessing student achievement of the learning outcomes. The program chair will request data related to the exit exam questions from the Director of Assessment. Changes will then be made to the exit exam and/or teaching methods on that particular material for the purpose of program improvement.

Focal Area 2: Curriculum and Co-Curriculum

2.1 Faculty Collaboration on Curriculum Design and Improvement

With the help of the advisory committee, curriculum is changed as research indicates there is a need for change. When there is such a need, the instructors teaching in that particular discipline evaluate the new material and determine how to present the new material most effectively. There is a conscious effort to design the curriculum to achieve learning objectives. In some cases, the design of the curriculum reflects individual preferences; however, final approval of any major changes is approved by all faculty members in the program.

2.2 Course Content and Sequencing to Achieve Learning Objectives

The curriculum was created to allow students to take the first semester courses in any order that works best for them in scheduling those courses. The advanced courses have pre-requisites since these courses build on information presented in the early courses. The capstone courses taken at
the end of the student’s degree program integrate much of the information learned up to that point.

Faculty members make a conscious effort to design courses carefully to support other courses required by the program. A new course, ETEC 2406 - Microcomputer Applications for Industry, was recently added to the program. ETEC 1320 which served as a pre-requisite for the new course was modified accordingly. The instructors for the new and for the existing course reached an agreement regarding the changes that were needed. The modifications included adding material to ETEC 1320 that emphasized concepts that would help prepare students meet learning objectives for ETEC 2406.

2.3 Soundness of Curriculum, Including Best Practices

Based on input from the advisory committee, curriculum is reviewed to see how it might be improved. In the past, the committee has recommended changes in curriculum to reflect changes in technology. They have also made recommendations to include more practical writing assignments in all courses so that students get more practice using writing skills. Another recommendation recently was to include exercises that would help with training in the customer service area. These recommendations were made in the April 10, 2008 Advisory Committee meeting and are documented in the meeting minutes presented in Appendix 6. Conversations with students and employers also provide feedback about course content and on concepts that need more emphasis. Faculty members have sometimes benefitted from best practices by evaluating curricula of similar programs in other institutions. This task has been made easier since most institutions now have websites making program information available online. To commit to make researching best practices in comparable programs a regular practice is stated as an improvement need for this Focal Area.

Improvement Needs for Focal Area 2

- Program improvement at Southwest could result from increased research regarding promising practices from comparable programs in other institutions.

Focal Area 3: Teaching and Learning

3.1 Focus on Teaching and Learning

Teaching is organized based on the subject matter and learning objectives. Teaching is further organized in such a way as to first cover basic concepts in assuring that students have proper backgrounds before attempting the more difficult topics. Learning is reinforced through assessments with test results reviewed in class. In stimulating student involvement with the material, hands-on laboratory assignments are utilized whenever applicable.
3.2 Use of Instructional Methods and Materials for Mastery

Teaching methods including lectures, labs, reports or projects, and field experiences are utilized to enhance student learning. Student utilization of the internet for instruction is strongly encouraged by program faculty. The lectures are designed to give students knowledge and skills needed to perform their jobs competently and safely. Since research indicates that students learn skills best when they have hands-on or experiential learning opportunities, instructors incorporate this method in class where appropriate. The labs are meant to build on what students have learned in the classroom and to give practical experience in key areas. Students are encouraged to ask questions in the classroom, a practice which benefits faculty and students alike. Students have access to instructors through their online student portals and additionally are provided contact information for instructors including office phone numbers and locations. The program has access to the needed technology including computers, equipment and software for teaching processes which include electronic workbench exercises and valuable instructional power-point presentations.

Faculty members analyze teaching and learning processes on a continual basis. Faculty members continually look for projects students can build or ideas that will help students to retain and use the information learned in the classroom and laboratory. Assessment of student achievement of the learning outcomes provides information beneficial in determining which method of instruction is best used in helping students to master core concepts. Faculty members strive for coherence in the teaching of concepts - by teaching topics in stages, building on previous material learned and helping students to focus on the “big picture”.

3.3 Collaboration in Design and Delivery of Teaching-Learning Process

Program faculty members do not always work collaboratively on the design and delivery of the teaching-learning process. Currently there are only two full-time faculty members employed in the Electronic Technology program at Southwest. Because there are so few faculty members in the program, each instructor teaches certain courses in the fall and certain courses in the spring each year. Typically there is only one day section and one night section of a particular course and many times, the same instructor teaches both sections. In the case where there are multiple sections of the same class taught by different instructors, there is positive collaboration between instructors about the design and delivery of the teaching-learning process.

Faculty members in the Electronic Technology program teach classes on an as-needed basis as adjuncts in the Electrical Engineering Technology program at Southwest. This exposure to different teaching and learning methods has proved beneficial for the Electronic Technology faculty members. Additionally, faculty are in close contact with the Electronic Technology advisory committee and with industry contacts in helping to determine the best teaching practices for the students. Students have been surveyed during each course through use of IDEA surveys and have been asked to evaluate instructors, teaching methods and facilities. Feedback from these surveys is reviewed by supervisors and instructors for the purpose of improving teaching and learning.
Improvement Needs for Focal Area 3

- Consult with comparable programs at other colleges to share and benefit from promising practices in teaching in learning.

Focal Area 4: Student Learning Assessment

4.1 Key Quality Indicators for Learning Objectives

Each student is required to take the program exit exam the last semester before graduation. The exit exam was developed through a collaboration of the entire faculty. Each faculty member was required to provide questions for the exam from each course the faculty member taught on a regular basis. The questions were then compared to those on the Certified Electronic Technician (CET) exam for quality and consistency. Additional input regarding key learning outcomes was provided by the Advisory Committee.

Southwest has a Quality Enhancement Plan (QEP) that attempts to address the issue of enhancing student learning. One result of implementing the QEP was the development of student learning outcomes through linkage of the learning outcomes, learning objectives, and items on the program exit exam. Results of the exit exams are compiled in the Office of Assessment with results analyzed and the information retained in a database. Programs are given results through an item analysis which allows faculty members to assess the student achievement of the learning outcomes. Through using the results of the exit exam, decisions within programs can be made regarding whether a change is needed on the exit exam, or learning outcome, or whether a teaching method should be modified. Using the results of the exit exams can lead to program improvement and enhanced student learning. The Electronic Technology exam was carefully designed around the defined program learning outcomes. However, a weakness in the process has been that the data has not been analyzed by the program coordinator and other key faculty member and used for making improvements in the program. One need for the Electronic Technology program is to link the student learning outcomes in the program with questions on the exit exam and carefully analyze and use the results for program improvement.

4.2 Best Practices for Assessing Student Learning

The program’s exit exam was designed by focusing on assessing the learning objectives that were set forth by the program’s advisory committee and industry leaders. Since the exit exam was also designed by using the CET exam (a national certification for technicians) as a model, the exit exam is considered grounded in best practices.

4.3 Continuous Assessment-Based Program Improvements

Program improvements are made as necessary when use of assessment results indicates that changes are needed. One example regards the addition of the ETEC 2406 - Microcomputer Applications for Industry course when the advisory committee suggested that a course emphasizing new program technology should be added. Appropriate changes within courses are made as assessments indicate a lack of student achievement of the learning outcomes.
Assessment methods used for evaluation of learning outcomes are reviewed within the department and are changed as needed. Faculty members make changes in teaching as appropriate when results of the department chairs or student evaluation of teaching indicate a need for improvement. Improvements in both the program and in teaching methods are continually made based on assessment results.

4.4 Multiple Measures in Assessing Learning and Program Effectiveness

Traditional assessment methods are utilized in the courses including chapter tests, graded projects, graded lab activities, and comprehensive final exams. Program faculty members collaborate on methods of assessment within the courses. Through the course assessments and exit exam results, student achievement of the learning outcomes is assessed. Improvements are made in the program when assessment results indicate a need.

Additionally, faculty members rely on the program’s advisory committee and companies who hire program graduates to determine the effectiveness of the program. The program sends out an Employer survey to committee members and companies to get their assessment of the program and graduates they hire. Respondents are asked to define important skills needed in the field by the program’s graduates and to discuss whether the skills learned in the training are adequate to make the students successful in their jobs. The Alumni surveys given to students after graduation from the program provide additional valuable feedback regarding the effectiveness of the program. Information includes whether the degree was helpful to students in finding employment. Further, students are asked whether the skills learned in the training adequately prepared them for employment. Program faculty members believe that if the degree students earned helped them in finding and keeping a job, the program is on target.

Improvement Needs for Focal Area 4

- Carefully analyze the results of the exit exam to identify weaknesses in teaching or in the program and use the results to make program improvements.

Focal Area 5: Systematic Quality Assurance

5.1 Commitment to Continuous Quality Improvements

The program uses qualified dedicated faculty based on education and experience, which helps assure the quality of content of the program’s courses. Faculty members are dedicated to making continuous quality improvements in the program. Mutual departmental objectives are developed by collaboration among faculty members and are implemented consistently.

Meaningful timely feedback is given to faculty regarding how they are performing work related to the curriculum and in other practices affecting students. The IDEA evaluation given at the end of every semester provides feedback from students that can point to problems in the learning environment, the grading system, the course, or instructor. The program coordinator reviews each survey for a course at the beginning of the following semester. The program coordinator
notes complaints and relays needed changes to faculty in individual conferences with faculty members.

5.2 Systematic Quality Assurance

Quality assurance in the program is in place as a systematic process. Each instructor reviews his own class surveys and department chair’s evaluations for feedback regarding teaching effectiveness. The program coordinator insures that the exit exams are conducted as scheduled with results reviewed as a tool for improvement. The department chair and dean regularly attend the advisory meetings and are able to evaluate feedback from committee members and employers of graduates. Concerning academic advisement, each student in the program is individually advised by the faculty and the student’s total academic progress is tracked each semester. Each student is advised at least once per semester.

**Improvement Needs for Focal Area 5**

- Make full use of data provided by the Exit Exams as noted previously as a method for assuring continuous improvement in the program.

IV. POTENTIAL RECOMMENDATIONS AND ASSOCIATED INITIATIVES

Having assessed the overall educational quality of the Electronic Technology program in the self-study, the purpose of this section will be to present some specific initiatives for improvement. The program’s faculty members are committed to working intensively on the following quality improvement initiatives:

1. **Project Name:** Program Marketing/Initiation of Cooperative Education opportunities

   **Description of Initiative:** At the beginning of the fall semester and at the conclusion of the spring semester, faculty members maintain office hours for several days in which they do not have responsibility for teaching. This time can be used to contact area companies to inform them regarding the Electronic Technology program and the new Technical Certificate, Basic Electronics Technician. Faculty members will be required to make contact with a company, either by telephone or in person, and provide the company with program and certificate information and also cooperative education information.

   **Intended Result:** An intended result is to market the program to increase interest and thus enrollment in the program. An additional intended result is to make the industrial community aware of both the existing program and the new certificate program. A final intended result is for the development of cooperative education and internships for program students though the solicitation of interested companies.
(2) **Project Name:** Exit Exam Initiative

**Description of Initiative:** After the Exit Exam is administered in the spring, data will be collected and carefully analyzed with the results used for program improvement.

**Intended Result:** Full use of exit exam results will result in improvement in the program. Use of results may include updates to the curriculum, modifications in the learning outcomes, modifications in means of assessment, and modifications in teaching methods.

### V. MATRIX OF IMPROVEMENT INITIATIVES

<table>
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<th>Recommended Improvement Action</th>
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<th>Timeline</th>
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<td><strong>Project Name:</strong> Marketing the program/Initiation of Cooperative Education opportunities</td>
<td><strong>Coordination:</strong> Program Coordinator</td>
<td><strong>Beginning:</strong> Spring 2009</td>
</tr>
<tr>
<td><strong>Description of Initiative:</strong></td>
<td><strong>Participants:</strong> All full time faculty</td>
<td><strong>Ending:</strong> Ongoing</td>
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<tr>
<td>Faculty will contact local companies with program and certificate information and further encourage the company’s partnership with the school in providing cooperative education or internships for students.</td>
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<tr>
<td><strong>Intended Result:</strong></td>
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<tr>
<td>Increase interest and enrollment in the program. Develop appropriate cooperative education and student internships.</td>
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<td></td>
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<tr>
<td><strong>Supports Focal Areas 1,2,3,4</strong></td>
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<tr>
<td><strong>Project Name:</strong> Exit Exam Initiative</td>
<td><strong>Coordination:</strong> Program Coordinator</td>
<td><strong>Beginning:</strong> Spring 2009</td>
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<tr>
<td><strong>Description of Initiative:</strong></td>
<td><strong>Participants:</strong> All Full time faculty</td>
<td><strong>Ending:</strong> Ongoing</td>
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<td>After Exit Exam is given in the spring, data will be collected and carefully analyzed with the results used for program improvement.</td>
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<tr>
<td><strong>Intended Result:</strong></td>
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<tr>
<td>Full use of exit exam results will result in program improvement.</td>
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<tr>
<td><strong>Supports Focal Areas 1,2,3,4,5</strong></td>
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APPENDICES

Appendix 1    Program Requirements

Appendix 2    Course Descriptions

Appendix 3    Enrollment Data

Appendix 4    Faculty and Advisory Committee Rosters

Appendix 5    Advisory Committee Minutes

Appendix 6    Graduate Placement Information

Appendix 7    Field Trip Schedule
Appendix 1 – Program Requirements

**ELECTRONIC TECHNOLOGY**
Associate of Applied Science Degree
Karen Webb

The Electronic Technology program is largely laboratory oriented to provide the graduate with the skills needed to repair electronic equipment. Emphasis is placed on the use of test equipment and schematic diagrams to repair digital and microprocessor-based electronic equipment.

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<td>ETEC 1011</td>
<td>DC/AC Electronics</td>
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<td>ETEC 1113</td>
<td>Electronic Test Equipment</td>
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<td>ETEC 1031</td>
<td>Digital and Microprocessor Electronics</td>
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<td>ETEC 1320</td>
<td>Digital Circuits II</td>
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<td>ETEC 1021</td>
<td>Solid State Devices</td>
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<td>ITEC 1325</td>
<td>IT Essentials I</td>
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<td>ENGL 1010</td>
<td>English Composition I (Gen. Ed.)</td>
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<td>ETEC 2302</td>
<td>Miniature Component Repair Techniques</td>
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<td>ETEC 2406</td>
<td>Microcomputer Applications for Industry</td>
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<td>Technical Elective</td>
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<td>Communication, Humanities and/or Fine Arts, Social/Behavioral Sciences, Natural Sciences/Mathematics (Gen. Ed.)</td>
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<td>Technical Elective</td>
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<tr>
<td>ETEC 2402</td>
<td>Troubleshooting Microprocessor Based Systems</td>
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<td><strong>Total</strong></td>
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Total Program Credits 60
### Appendix 2 – Course Descriptions

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<tr>
<th>Course Code</th>
<th>Course Title</th>
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<tr>
<td>ETEC 1011</td>
<td>DC/AC Electronics &amp; Lab</td>
<td>This course covers the theory of electricity, current voltage and power in series, parallel and complex DC and AC circuits. Electronic component identification, schematic diagrams and the proper use of test equipment are part of the course. Laboratory experiments reinforce the classroom lectures. A working knowledge of high school mathematics is required for this course.</td>
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<tr>
<td>ETEC 1021</td>
<td>Solid State Device &amp; Lab</td>
<td>The theory and principles of operation of solid state devices such as diodes, transistors, FETs, power amplifiers, operational amplifiers, SCRs, power supplies and regulators are examined in detail in the classroom and laboratory.</td>
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<tr>
<td>ETEC 1031</td>
<td>Digit/Micro Electr &amp; Lab</td>
<td>Binary, hexadecimal and base ten numbering systems, basic logic gates such as inverters, latches, flip-flops, counters, adders, decoders and encoders are covered in this course. In addition, microprocessors, software and hardware are studied. Laboratory experiments reinforce class discussions.</td>
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<tr>
<td>ETEC 1113</td>
<td>Electronic Test Equipment</td>
<td>This course will provide the student with the knowledge and skills required to effectively use a variety of electronic test equipment that is used in the testing and repairing of electronic equipment. The types of equipment the student will be exposed to are: Analog and Digital Multi-meters, Oscilloscopes, Function Generators, Impedance Meters, Semi-conductor component testers, and digital logic testers.</td>
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<tr>
<td>ETEC 1320</td>
<td>Digital Circuit II &amp; Lab</td>
<td>This course continues with the basic logic gates used in microcomputers, such as counters, shift registers, encoders, decoders, and analog to digital converters. In addition, it introduces the student to the complete microcomputer. The assembly language instructions are examined as well as memory expansion and peripheral devices. This course familiarizes the student with the essentials of programming and interfacing the microcomputer.</td>
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<tr>
<td>ETEC 2300</td>
<td>Electronic Communications I</td>
<td>The student gains skills in circuit recognition, schematic reading, troubleshooting of solid-state and vacuum tube transmitter circuits, R.F. oscillators, harmonic generators, R.F. power amplifiers and audio modulator circuits. The student interprets voltage and resistance measurements to effect repairs. Usage of signal generators, oscilloscopes and frequency counters to analyze circuit failures is emphasized. The student gains the awareness of the usage of transmission lines and their application in communications. Emphasis is placed on the parameters associated with standing waves and the characteristic impedance of a transmission line.</td>
</tr>
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</table>
## ETEC 2302 - Mini Component Rep & Lab

The student will learn proper soldering techniques, use of hand tools, and rules for laboratory safety. Emphasis is on soldering/desoldering electronic components on different types of connections, the installation/removal of electronic components from printed circuits board, and minor circuit board repair techniques. Using PACE Soldering stations and MANTIS Viewing Systems, the student will learn thru-hole and surface mount soldering.

## ETEC 2402 - Troubleshooting Micro Systems & Lab

With the ever-increasing use of microprocessor based electronic systems, the study of troubleshooting this multibus system in a logical method is becoming a must for modern electronic service personnel. This course examines various tools available for troubleshooting from the oscilloscope and logic analyzers to newer dynamic in-circuit testers. The student troubleshoots a variety of microprocessor based systems.

## ETEC 2406 - Microcontroller Apps For Indus

This course provides hands-on experience with programming a microcontroller and interfacing it to electronic devices. Laboratory experiences include servo and stepper motor control, RF digital communications, infrared communications and detection, ultrasonic range finding and detection, radio frequency identification (RFID) and data logging.

## ITEC 1325 – IT Hardware Essentials I

Students learn the functionality of hardware and software components as well as suggested best practices in maintenance and safety issues. The students, through hands-on activities and labs, learn to assemble and configure a computer, install operating systems and software, and troubleshoot hardware and software problems. In addition, this course includes an introduction to networking. This course helps students prepare for the CompTIA A+ certification. One computer per student is assigned for the course.
Appendix 3 – Enrollment Data

Electronic Technology AAS Profile

Fall 2008 Enrollment Profile

<table>
<thead>
<tr>
<th>Headcount</th>
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<td>11.13</td>
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Gender Profile

![Gender Profile Diagram]

Race Profile

![Race Profile Diagram]

Fall Enrollment Trend

![Fall Enrollment Trend Graph]

Degrees Awarded

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<td>Female</td>
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<td>3</td>
<td>1</td>
<td>3</td>
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<td>11</td>
<td>6</td>
<td>3</td>
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<td><strong>14</strong></td>
<td><strong>7</strong></td>
<td><strong>3</strong></td>
<td><strong>8</strong></td>
<td><strong>18</strong></td>
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</tbody>
</table>

Source: 14th day files and graduation files
Appendix 4 – Faculty and Advisory Committee Roster

Electronic Technology Faculty

Full Time Faculty

Karen Webb
AA degree, Southern Baptist College, Walnut Ridge, Arkansas
AAS degree, State Technical Institute at Memphis, Memphis, Tennessee
BSET degree, Memphis State University, Memphis, Tennessee

Carl Wagner
AA degree, New York Reagents College, New York
BA degree, Industrial Technology, Southern Illinois University, Carbondale, Ill
MBA degree, Management and Marketing, University of Memphis, Memphis, Tennessee

Technical Training Specialist

Dierdri Williams
AAS degree, State Technical Institute at Memphis, Memphis, Tennessee
BSET degree, Memphis State University, Memphis, Tennessee

Electronic Technology Advisory Committee -2009

John Carlyle
Maintenance Manager
Smith & Nephew
901-399-6388
John.Carlyle@smithnephew.com

Frank Civera
Bartlett Info Tech Services, LLC
(901) 384-6151 (voice)
www.bits-pos.com
eecivera@bellsouth.net

Wendell Law
Director, Technical Operations
Avionics Specialist Inc.
Phone 901-362-9700
wlaw@avionics-specialist.com

Don Hylander
Sr. Technical Support Specialist
FedEx Services
(901)-850-7487
dwhylander@fedex.com

Curtis LeJeune
Biomedical Electronics Technician II
Saint Francis Hospital-Bartlett
(901)-820-7735
cjlejeune@yahoo.com

Dave Wittrock
Senior Customer Engineer
Peak Technologies
(901) 301-3736
David.Wittrock@peaktel.com

Gerald A. Sinkfield
Manager, Production Training
TVA – Tennessee Valley Authority
(423) 718-8864
gasinkfield@tva.gov

Patrice J. Robinson
Supervisor, Employee Development
Memphis Light, Gas and Water Division
(901) 213-1239
probinson@mlgw.org

Blanchard Winbush
Sr. Production Supervisor
Site Training and Safety Coordinator
Flextronics Corporation
(901)-260-2413
blanchard.winbush@flextronics.com

Bill Fuelling
Special Projects Director
Phoenix Communication Corp
(901) 624-0940
bilf@phoenixcommcorp.com
The regular meeting of the ELECTRONIC TECHNOLOGY PROGRAM was called to order at 12:15 pm on April 10, 2008 by Patsy Fancher, Interim Department Chair.

MEMBERS PRESENT
Karen Webb, Program Coordinator, Electronic Technology  
Carl Wagner, Associate Professor  
Dierdri Williams, Technical Training Specialist  
Wendell Law, Avionics Specialists, Inc.  
Curtis LeJeune, Saint Francis Hospital  
Frank Civera, Bartlett Info Tech Services  
David Wittrock, Peak Technologies  
Bill Fuelling, Phoenix Communication Corporation

GUESTS PRESENT
Dr. Joanne Bassett, Provost  
Mike Stephens, Interim Dean, Business, Career Studies and Technologies  
Patsy Fancher, Interim Department Chair, Industrial, Environmental & Graphic Arts Technologies  
Dewey Sykes, Cisco Networking Academy  
Brenda Williams, Interim Career Services Director

The regular meeting of the ELECTRONIC TECHNOLOGY PROGRAM was called to order at 12:15 pm on April 10, 2008.

The purpose of the meeting was to:

(1) inform the committee of the recent approval of the new Electronic Technology certificate  
(2) inform the committee of the recent approval of the modified Electronic Technology degree program  
(3) ask the advisory board for input in updating curriculum

Patsy Fancher called the meeting to order and directly expressed the importance of these meetings to the committee members, stressing how vital their role is and how much we value their opinions and suggestions for the program. Their connection to the “real” world helps our program stay current. This would be called “staying on the cutting edge” of technology and that is what we want to be known for in the community. Patsy then introduced Dr. Bassett and asked her to address the committee.

Dr. Bassett stated her role and the position she holds with the college and thanked the committee for taking time out of their busy schedule to support this program, not only with their time but with their various areas of expertise. She then turned the meeting over to Karen Webb.
NEW BUSINESS
Brenda Williams from Career Services presented information about services her area offers to the student and area employees. She also explained the importance of the committee and that their feedback is very important to the college as a whole and asked each committee member to fill out an employer survey.
Dewey Sykes spoke about the changes that Cisco was implementing in the Networking Academy and how these changes included being more customer oriented, knowing how to communicate with the customer to get the problem resolved. Many of the committee members were in agreement with those changes and most stated that their companies are on the same path. Dewey also introduced Cisco’s latest revised program, Cisco IT Essentials I, and briefly explained how it will be used and how the student will benefit from this area of study.
Karen asked each member of the committee to introduce themselves, stating the name of the company and the area they represent. This was very helpful as there were some new committee members and it also gave us some background about their advising strategy.
Karen announced major changes in the ETEC degree program that was approved late last fall. These changes included modifying the general education requirements – Oral Communication is not required and a student can decide which general education Math course to take. Another big change is the inclusion of 1 general elective and 2 technical electives. This makes the degree more flexible and will allow students to tailor their degree to their specific needs.
Karen announced that the Technical Certificate, that had been put on hold, was finally approved last fall as well. The technical certificate is named “Basic Electronics Technician” and every course taken under the technical certificate can be transferred to the “new” degree program. The certificate can be completed in 2 semesters. No general education courses are required for the certificate. The committee’s response was favorable.
Karen asked the committee to look over the curriculum of both the degree and the certificate, and advise us about changes in order to make it more conducive to the needs of the companies that hire our graduates.
The committee strongly recommended that we include curricula that would improve communication skills (written and oral) between technicians, customers (who is their bread and butter), and supervisors. It should include topics such as work ethics, technical writing, filling out work orders, dealing with angry customers, email etiquette, etc. The committee stressed the importance of a technician possessing a good “working knowledge” of electronics. ETEC faculty agreed to find ways to include these topics in current curriculum and/or design a course with these topics that could be used as an elective.
Mike Stephens spoke in-depth about the changes that have occurred in electronics and how the program has had to change with the times. He expressed to the committee the need for them to suggest changes to the program that could benefit their particular companies. He also suggested that the committee continue to let us know what skills our students should possess when they walk through their doors. This information will help us keep our curriculum current and practical.
Meeting was adjourned at 2:00 pm by Karen Webb. The next general meeting will be during the Fall Semester 2008.

Minutes submitted by: Dierdri Williams, TTS
Approved by: Karen Webb, Program Coordinator,
Electronic Technology Program
## Appendix 6 – Graduate Information 2004 – 2007

<table>
<thead>
<tr>
<th>Terms</th>
<th>Name</th>
<th>Company</th>
<th>Salary</th>
<th>Employment Status***</th>
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<td>2004 S, U, F</td>
<td>Sharon Brooks</td>
<td>Flextronics</td>
<td>20,000</td>
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<tr>
<td></td>
<td>Erica Fitzpatrick</td>
<td>Borden Enterprise</td>
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<td></td>
<td>Larry Grubb</td>
<td>TMG Airepairs</td>
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<td></td>
<td>Don Hylander</td>
<td>Federal Express</td>
<td>44,000</td>
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<td></td>
<td>Christopher Jackson</td>
<td>Ardent Studios</td>
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<td></td>
<td>Terrance Mack</td>
<td>Baptist East Biomedical</td>
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<td>2005 S, U, F</td>
<td>Wilford Barnes</td>
<td>Shelby County Schools</td>
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<td></td>
<td>Larry Gunter</td>
<td>Carrier Corporation</td>
<td>55,000</td>
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<tr>
<td></td>
<td>Sidiky Kone</td>
<td>Sperion</td>
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<td>Curtis Lejeune</td>
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<td>Christopher Morman</td>
<td>Fed Ex and Solectron</td>
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<td></td>
<td>Keith Waggoner</td>
<td>Bartlett Info Tech Serv</td>
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<td>2006 S, U, F</td>
<td>Reginald Chambers</td>
<td>Sharp Manufacturing</td>
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<td></td>
<td>Athanase Kabera</td>
<td>Jabil Global</td>
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<td>Willie Minor</td>
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<td>2007 S, U</td>
<td>Bobby Jackson</td>
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<td>Nathan Tyler</td>
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*** 1 – Attending School for Further Education  
2 – Military Service  
3 – Employed in a Related Field  
4 – Employed in an Unrelated Field  
5 – Not Employed – Seeking Employment  
6 – Not Employed – Not in Labor Market  
7 – Unknown
## Appendix 7 – Schedule of Field Trips

### Field trip synopsis

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<tr>
<th>Term</th>
<th>Location</th>
<th>Outcome</th>
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<td>Fall 06</td>
<td>WHBQ ch13</td>
<td>Students experienced many areas of electronic Communication, including satellite relays, broadcast towers, live feeds, critical timing of program changeovers, and a live on air broadcast. The station was starting to convert to digital at this time, so students viewed both new and older methods of communication.</td>
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<tr>
<td>Fall 07</td>
<td>WHBQ ch13</td>
<td>Same as above with the addition of a walk thru of the new mobile satellite vehicle (a Hummer with state of the art electronics).</td>
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<tr>
<td>FAA @ Memphis</td>
<td></td>
<td>Toured the ground control approach facility (GCA), including the tower. Also had an extensive walkthrough of the air traffic control facility (ATC). Students saw and learned about radar, air traffic patterns (including distinct altitude separations), aircraft communications, inter-site communication, and inter city/airport communications. In addition the students were able to view the massive power backup system that is in place at both locations.</td>
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