Program Review

Institutional Self-Study
Computer Information Technology Program

Southern Arkansas University Tech
2012-2013
Overview

The Arkansas Higher Education Coordinating Board (AHECB) Existing Program Review Policy adopted in October 2008 requires the review of all academic programs every seven to ten years. A major component of the policy is an internal review (self-study) by institutions and an external review by consultants of programs. The institution’s self-study, consultants’ written evaluation, and the institution’s response to the consultants’ findings will be submitted to the Arkansas Department of Higher Education.

This self-study is a program review of the following academic program:

Associate of Applied Science Degree in Computer Information Technology
   * Computer Technician Emphasis
   * Network & System Administrator Emphasis
Technical Certificate in Computer Information Technology
Certificate of Proficiency in Computer Engineering
Certificate of Proficiency in Cisco Networking
Certificate of Proficiency in A+ Certification
Certificate of Proficiency in Microsoft Certified IT Professional.

I. Goals, Objectives and Activities

1. Describe specific educational goals, objectives and activities of the program.

   With the importance of computers in the workplace and the emphasis on more sophisticated technologies, qualified computer technology people are in high demand. Southern Arkansas University Tech’s (SAU Tech) computer information technology program provides students with the opportunity to develop the skills needed to obtain a job in computer technology. Students learn how to install, configure, and maintain personal computer workstations, as well as setting up clients and servers on a network. The program gives students a foundation for pursuing A+, Network+, Security+, Systems Security Certified Practitioner (SSCP), Microsoft Certified IT Professional (MCITP), and Cisco Certified Network Associate (CCNA) certifications that can offer students greater employment potential. Graduates should be prepared for entry-level employment in a variety of positions. Students choose an area of emphasis between computer technician and network and system administration.

2. Explain how the program serves the general education program and other disciplinary programs on the campus, if applicable.

   The computer information technology program provides the required computer science general education course (introduction to computers) for most transfer and career and technical education program degrees.
3. **Document market demand and/or state/industry need for careers stemming from the program.**

The base compensation for information technology (IT) professionals is expected to increase an average of 5.3 percent this year (2013). The 15 positions expected to see the largest salary gains, percentage-wise, are:

1. Mobile Applications developers
2. Wireless network engineer
3. Network engineer
4. Data modeler
5. Portal administrator
6. Data warehouse manager
7. Business intelligence analyst
8. Senior web developer
9. Web developer
10. Network architect
11. Network manager
12. Data architect
13. Data security analyst
14. Software engineer
15. Network administrator Net increase of 6.8 percent ($62,750-$93,250)

Networking is predicted to be the second fastest growing occupation in the United States, faster than the average for all occupations, and should continue to grow as we invest in newer, faster technology and mobile networks. Chief information officers have indicated the need for the following industry-based employees:

- Network Administration  64%
- Database Management  51%
- Desktop Support  46%
- Windows Administration  42%
- Wireless Network Management  35%
- Web Development and Design  35%
- Telecommunications Support  28%
- Virtualization  25%
- Business Intelligence  22%
- ERP Implementation  15%

The United States Bureau of Labor Statistics predicts the current fastest growing IT jobs to be:

- Network and Computer Systems Administrators  28%
- Information Security Analysts, Web Developers, and Computer Network Architects  22%
- Computer Systems Analysts  22%
- Computer and Information Research Scientists  19%

**Just in the United States alone, 234,700 new positions are predicted to be added by 2018.**
Sources:
Cisco VNI Forecast Highlights
United States Bureau of Labor Statistics
Robert Half Technology, 2012 Salary Guide
Global Knowledge: 15 Top Paying IT Certifications for 2012
Global Knowledge: 2012 IT Skills and Salary Report
CareerBuilder study, commissioned by Cisco, 2011

4. Document student demand for the program.
Student program demand has remained steady over the last four academic years:

<table>
<thead>
<tr>
<th>Academic Year</th>
<th>Declared Majors</th>
</tr>
</thead>
<tbody>
<tr>
<td>2009-2010</td>
<td>68</td>
</tr>
<tr>
<td>2010-2011</td>
<td>71</td>
</tr>
<tr>
<td>2011-2012</td>
<td>61</td>
</tr>
<tr>
<td>2012-2013</td>
<td>58</td>
</tr>
</tbody>
</table>

SAU Tech recruiters report that student interest and demand for the computer information technology program among high school students in the college’s service area remains in the top three programs of the college.

II. Curriculum

1. Describe how program content parallels current thinking/trends in the field/trade (best practices, advisory committee recommendations, etc.).
Courses taught in the program directly map toward current industry-standard certification(s) and are integrated into the framework of the program curriculum. After taking assigned courses students should have sufficient skills and knowledge to pass one or more corresponding industry standardized exam(s) that will earn them certification in addition to their AAS degree.

CompTIA certifications validate the latest skills needed by today’s computer support professionals. It is an international, vendor-neutral certification recognized by major hardware and software vendors, distributors and resellers. CompTIA certifications confirm a technician's ability to perform tasks such as installation, configuration, diagnosing, preventive maintenance and basic networking, recognizes a technician's ability to describe the features and functions of networking components and to install, configure and troubleshoot basic networking hardware, protocols and services, and validates knowledge of communication security, infrastructure security, cryptography, operational security, and general security concepts. Certifications available for students include:

- CompTIA
  - A+ Certification
- Courses Provided by Program
  - EE2804, EE2904, CS2084 & CS2094
- CompTIA
  - Network+ Certification
- Course provided by Program
  - NT2444

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Microsoft Certifications not only thrive on the continuing challenges of the IT field, but they also develop and hone necessary skills for continued employment. The practical expertise that is gained through the certification process provides individuals with the kind of know how that is recognized on the job, among peers, and employers. Certifications for students include:

- Microsoft Certified IT Professional (MCITP)
- Courses provided by program: NT1014, NT1114, NT2114, & NT2334

The Cisco Certification indicates a strong foundation in and apprentice knowledge of networking. CCNA certified professionals can install, configure, and operate LAN, WAN, and dial access services for small networks (100 nodes or fewer), including but not limited to use of these protocols: IP, IGRP, Serial, Frame Relay, IP, VLANs, RIP, Ethernet and Access Lists. Certifications for students include:

- Cisco Certified Entry Network Technician (CCENT)
- Courses provided by Program: CS1004 & CS1104
- Cisco Certified Network Associate (CCNA)
- Courses Provided by Program: CS1004, CS1104, CS1204, CS1304

The Systems Security Certified Practitioner (SSCP) Certification from ICS² demonstrates security knowledge in one of the fastest-growing fields in IT. ICS² is the world leader in educating and certifying security professionals worldwide. The SSCP credential ensures that candidates continuously monitor systems to safeguard against security threats while having the knowledge to apply security concepts, tools and procedures to react to security incidents. The SSCP credential demonstrates competency in Access Controls; Cryptography; Malicious Code and Activity; Monitoring and Analysis; Networks and Communications; Risk, Response and, Recovery and; Security Operations and Administration. Certifications for students include:

- Systems Security Certified Practitioner (SSCP)
- Course Provided by Program: CS2014

2. **Provide an outline for each program curriculum, including the sequence of courses.**

   The sequence of courses include the associate of applied science degree, technical certificates, and certificates of proficiency showing program curriculum and sequence of courses are located in **Appendix A** of this self-study.

3. **State the degree requirements, including general education requirements, institutional, college or school requirements, and major requirements.**

   Degree, general education, college and major requirements are indicated on the degree plan which is located in **Appendix A** of this self-study.
4. **Indicate the semester/year the major/program courses were last offered. Exclude general education courses.**

**Core Courses:**
- CS-1004 Cisco Networking I   Fall 2012
- EE-2804 Basic PC Troubleshooting  Fall 2012
- NT-1014 Support Network Clients  Fall 2012
- CS-1104 Cisco Networking II  Spring 2013
- EE-2904 Advanced PC Troubleshooting  Spring 2013
- NT-1114 Support Network Servers  Spring 2013
- NT-2204 Security +    Fall 2012
- CS-2014 Enterprise Security  Spring 2013

**Computer Technician Emphasis Courses:**
- CS-2084 A+ Essentials   Fall 2012
- NT-2444 Network +    Fall 2012
- CS-2094 A+ Practical Applications  Spring 2013
- NT-2464 Server +     Spring 2013

**Network & System Administrator Courses:**
- CS-1204 Cisco Networking III   Fall 2012
- NT-2114 Support Network Infrastructure  Fall 2012
- CS-1304 Cisco Networking IV  Spring 2013
- CS-2334 Active Directory  Spring 2013

5. **Provide syllabi for discipline-specific courses and departmental objectives for each course.**
   Course syllabi are attached in Appendix B of this self-study.

6. **Outline the process for the introduction of new courses, including all internal curriculum review processes and the findings.**
   Faculty makes new course recommendations with justifications to the Vice chancellor for academics. Course revisions or additions to degree or certificates require additional approval of the curriculum committee. Changes to degree of more than 10 credit hours require notification to the Arkansas Department of Higher Education. One new course, CS-2114 Business Continuity & Recovery has been added to the program course offerings in the last three years as a free elective. No other degree or certificate changes have been made within the last three years.

7. **List courses in the proposed degree program currently offered by distance delivery.**
   The computer information technology program does not currently have courses offered by distance delivery.
8. Describe the instructor-to-student and student-to-student interaction for distance courses (prerequisite courses, lab requirements, examination procedures-online/proctored, and instructor response to student assignments).

The computer information technology program does not currently have courses offered by distance delivery.

III. Program Faculty (full-time/adjunct/part-time)

1. Provide curriculum vitae or program faculty information form for all full-time program faculty. The vita or form should include the following: all degrees and institutions granting the degrees; field or specialty of degrees; number of years employed as program faculty at the institution; current academic rank, if applicable; professional certifications/licenses; evidence of quality and quantity of creative and scholarly/research activity; evidence of quality and quantity of service activities; evidence of professional activities and non-teaching work experiences related to courses taught; list of course numbers/course titles of credit courses taught over the past two academic years; and other evidence of quality teaching.

The vitas for full-time faculty are attached in Appendix C of this self-study.

2. Indicate the academic credentials required for adjunct/part-time faculty teaching major/program courses.

SAU Tech adheres to the academic credential requirements of faculty for non-transfer terminal career and technical degree programs as outlined in the accreditation policies of the Higher Learning Commission of the North Central Association of Colleges and Schools. Adjunct faculty members are required to hold the same minimum credential levels.

3. Describe the orientation and evaluation processes for faculty, including adjunct and part-time faculty.

Faculty and adjunct faculty orientation provides the new employee with information that will ease the transition into the workplace; paints a precise picture of the department and the institution as a whole; introduces the new employee to departmental goals, policies and procedures, customs and traditions; conveys the employer’s expectations; relieves the new employee’s anxieties about starting a new job; and inspires the new employee to have a good attitude toward the college and his/her new job.

New employees are oriented by the college’s human resources officer and the employee’s immediate supervisor. Each new employee is given an orientation packet on the first day of employment. The new employee orientation packet is divided into five sections: a welcome letter from chancellor, an orientation checklist, human resources information, payroll and benefits information, and departmental information.

After completing the orientation checklist, the human resources and payroll and benefits staff as well as the employee and their supervisor, must sign and date the form. Since the departmental orientation is the final step in the process, the departmental supervisor must return the original checklist to the human resources office. The employing department
retains a copy of the checklist in the department files and provides the new employee with a copy. The original is returned to the human resources office approximately thirty (30) days from the date of hire.

During the first two years of employment, evaluation is intensive. Evaluation consists of student evaluations of teaching for course taught by faculty, classroom observation by the vice chancellor for academics (or his designee) at least once each semester, and annual self-evaluations.

After the initial first two years of employment, student evaluations continue for every course. During the third and fourth years, the vice chancellor for academics or designee observes the instructor once each year. After the fourth year, faculty are not observed unless deemed necessary by the vice chancellor for academics. Faculty continue to submit annual self-evaluations, and the vice chancellor for academics evaluates faculty based upon student evaluations, self-evaluations, assessment data, student success data, and professional development.

Classroom observations are conducted on adjunct faculty in all classes taught each semester regardless of years of adjunct service.

4. **Provide average number of courses and number of credit hours taught by full-time program faculty for current academic year.**
   A full-time faculty load is 15 credit hours. Faculty members are allowed to carry one course overload. Additional course overloads must be approved by the Vice chancellor for academics and the Chancellor. Loads for the current academic year are:

   Robert Brown       Fall 2012: 6 courses, 22 credit hours, 2 overload courses  
                      Spring 2013: 6 courses, 22 credit hours, 2 overload courses

   Jill McCollum      Fall 2012: 5 courses, 19 credit hours, 1 overload course  
                      Spring 2013: 5 courses, 19 credit hours, 1 overload course

IV. **Program Resources**

1. **Describe the institutional support available for faculty development in teaching, research, and service.**
   SAU Tech provides professional development funds under the vice chancellor for academics for faculty to retain needed industry-standard certifications. In addition, the faculty senate group provides funding for travel and professional-development opportunities of their choosing for faculty. The college requires faculty to maintain up-to-date certifications.
2. Describe the professional development of full-time program faculty over the past two years including the institutional financial support provided to faculty for the activities. Faculty training/professional development for Jill McCollum (Approximately $6,000):

- 4/15/2011 CSEC Meeting Little Rock, AR
- 6/27/2011 Cisco Networking Academy Conference
- 6/28/2011 Cisco Networking Academy Conference
- 6/29/2011 Cisco Networking Academy Conference
- 8/18/2011 Energize the Enthusiasm that Exists Within
- 8/18/2011 Sexual Harassment Training
- 8/18/2011 Student Retention Session
- 8/19/2011 Internet Faculty Training Session
- 10/11/2011 Grant Writing Workshop
- 11/9/2011 CSEC Meeting Little Rock, AR
- 11/10/2011 CSEC Training Principles of Information Assurance
- 11/12/2011 CSEC Training Network Security
- 12/12/2011 CSEC Training Network Security
- 12/13/2011 CSEC Training Network Security
- 12/14/2011 CSEC Training Information Security Management
- 12/15/2011 CSEC Training Information Security Management
- 12/16/2011 Management
- 1/5/2012 Grant Writing Workshop
- 3/8/2012 CSEC Training Secure E-Commerce
- 3/9/2012 CSEC Training Secure E-Commerce
- 3/28/2012 ARE-ON Webinar
- 4/11/2012 ARE-ON Webinar
- 4/25/2012 ARE-ON Webinar
- 5/9/2012 ARE-ON Webinar
- 5/21/2012 CSEC Training Forensics
- 5/22/2012 CSEC Training Forensics
- 5/23/2012 CSEC Training Forensics
- 5/24/2012 CSEC Training Forensics
- 5/25/2012 CSEC Training Forensics
- 6/4/2012 CSEC Training Certified Ethical Hacker
- 6/5/2012 CSEC Training Certified Ethical Hacker
- 6/6/2012 CSEC Training Certified Ethical Hacker
- 6/7/2012 CSEC Training Certified Ethical Hacker
- 6/8/2012 CSEC Training Certified Ethical Hacker
- 6/18/2012 Cisco Networking Academy Conference
6/19/2012 Cisco Networking Academy Conference
6/20/2012 Cisco Networking Academy Conference
7/1/2012 ARE-ON Webinar
7/23/2012 CSEC Training Forensics Tool Kit
7/24/2012 CSEC Training Forensics Tool Kit
7/25/2012 CSEC Training Forensics Tool Kit
7/26/2012 CSEC Training Forensics Tool Kit
7/27/2012 CSEC Training Forensics Tool Kit
8/22/2012 Emergency Training
8/22/2012 Child Maltreatment Training
8/22/2011 POISE Early Reporting System
8/22/2012 Sexual Harassment Training
10/2/2012 SoftChalk Cloud Training
10/14/2012 AATYC
10/15/2012 AATYC
10/16/2012 AATYC
10/19/2012 PBL Fall Leadership Conference
10/20/2012 PBL Fall Leadership Conference
10/23/2012 Self-Defense Training
10/28/2012 STEM Technology Conference
10/29/2012 STEM Technology Conference
10/30/2012 STEM Technology Conference
10/31/2012 STEM Technology Conference
10/29/2012 Quality Matters Meeting
1/2/2013 Quality Matters Training
1/3/2013 Quality Matters Training

Faculty training/professional development for Robert Brown (Approximately $12,000):
11/10/2011 Backboard 9.1 Training
4/12/2012 Information Systems Security Training
4/13/2012 Information Systems Security Training
4/14/2012 Information Systems Security Training
4/15/2012 Information Systems Security Training
6/12/2012 Certified Ethical Hacking Boot Camp
6/13/2012 Certified Ethical Hacking Boot Camp
6/14/2012 Certified Ethical Hacking Boot Camp
6/15/2012 Certified Ethical Hacking Boot Camp
6/16/2012 Certified Ethical Hacking Boot Camp
10/12/2012 Quality Matters
11/12/2012 CISSP Boot Camp
11/13/2012 CISSP Boot Camp
11/14/2012 CISSP Boot Camp
3. Provide the annual library budget for the program or describe how library resources are provided for the program.
SAU Tech’s Library does not allocate its budget according to programs or any other formal formulae (i.e. enrollment, student semester credit hour production, etc.); rather materials are purchased based on instructor recommendations and requests. Library allocations for the computer information technology program for the previous three years totaled $999.00.

4. Describe the availability, adequacy, and accessibility of campus resources (research, library, instructional support, instructional technology, etc.).
The college provides on-site professional development opportunities as well as web-based professional development opportunities for faculty. The computer information technology program has annual equipment and supplies budget of $20,000 and a student worker budget of $2,000. In addition, the vice chancellor for academics manages the academic program improvement budget of $60,000 for special or emergency academic program equipment purchases shared by all programs. The college replaces computers in all programs on a 30-month rotation. The computer services department provides technological support to programs as needed. The college attempts to maintain up-to-date, industry-standard labs for academic programs.

5. Provide a list of program equipment purchases for the past three years.

<table>
<thead>
<tr>
<th>Qty</th>
<th>Description</th>
<th>Date</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>C1841 Router</td>
<td>Feb-10</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Catalyst 2960-24TT Switch</td>
<td>Feb-10</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>SMART Board &amp; Projector</td>
<td>Apr-10</td>
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<td>21</td>
<td>Dell Lease PCs</td>
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<tr>
<td>Product Description</td>
<td>Quantity</td>
<td>Purchase Date</td>
<td>Price</td>
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<tr>
<td>---------------------------------------------------</td>
<td>----------</td>
<td>---------------</td>
<td>---------</td>
</tr>
<tr>
<td>HP LaserJet P2035n</td>
<td>1</td>
<td>Sep-10</td>
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<tr>
<td>C1841 Router</td>
<td>3</td>
<td>Mar-11</td>
<td>$2,992.50</td>
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<tr>
<td>Catalyst 2960-24TT Switch Linksys AE1200 Wireless-N USB Adapter</td>
<td>6</td>
<td>Mar-11</td>
<td>$4,065.00</td>
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<tr>
<td>HP LaserJet P2035n</td>
<td>1</td>
<td>Sep-11</td>
<td>$234.99</td>
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<tr>
<td>XFX Pro 1000W PS</td>
<td>15</td>
<td>Jul-10</td>
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<tr>
<td>Equipment 72U Racks</td>
<td>6</td>
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<tr>
<td>Server Cases</td>
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<td>Server RAM</td>
<td>6</td>
<td>$445.00</td>
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<tr>
<td>XFX HD-6677-ZHF3 Radeon Video Cards</td>
<td>10</td>
<td>Feb-12</td>
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<td>VisionTek PC3-14900 DDR3 8GB</td>
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<td>Silverstone SDP08 Converter</td>
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<tr>
<td>HP 22&quot; Touch Screen LCD monitors</td>
<td>5</td>
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<td>Asus Sabertooth 990TF Mother boards</td>
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<td>Asus Sabertooth 990TF Mother boards</td>
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<td>Power Supplies</td>
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<td>AMD FX-6100 CPU</td>
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<td>AMD FX-6100 CPU</td>
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<td>G. Skill 8GB 240Pin DDR3 RAM</td>
<td>10</td>
<td>Feb-12</td>
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<td>G. Skill 8GB 240Pin DDR3 RAM</td>
<td>5</td>
<td>Oct-12</td>
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<tr>
<td>500 GB SATA Hard Drives</td>
<td>18</td>
<td>Oct-12</td>
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<tr>
<td>Crucial CT064M4SSD2 SSD's</td>
<td>15</td>
<td>$1,199.85</td>
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<tr>
<td>Workstation Stands</td>
<td>15</td>
<td>$1,125.00</td>
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<tr>
<td>iPad</td>
<td>1</td>
<td>Jan-13</td>
<td>$829.00</td>
</tr>
<tr>
<td>Passmark PC Tool Kit</td>
<td>1</td>
<td>Nov-12</td>
<td>$495.00</td>
</tr>
<tr>
<td>Passmark OsForensic Software</td>
<td>1</td>
<td>Nov-12</td>
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</tr>
<tr>
<td>Passmark BurnIn Pro</td>
<td>1</td>
<td>Nov-12</td>
<td>$79.00</td>
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<tr>
<td>Passmark TestLog Software</td>
<td>1</td>
<td>Nov-12</td>
<td>$99.00</td>
</tr>
<tr>
<td>Passmark Wireless Mon V4 Pro Software</td>
<td>1</td>
<td>Nov-12</td>
<td>$49.00</td>
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<tr>
<td>Passmark W-Spy DBx Spectrum Analyzer</td>
<td>1</td>
<td>Nov-12</td>
<td>$975.00</td>
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<tr>
<td>Passmark Chanelyzer Pro</td>
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<td>Nov-12</td>
<td>-</td>
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<tr>
<td>Wi-Fi Pineapple</td>
<td>1</td>
<td>Nov-12</td>
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<td>Ubertooth One</td>
<td>1</td>
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<td>Rubby Duckie</td>
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<td>Nov-12</td>
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<td>Reaver Pro</td>
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<td>$99.00</td>
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<td>Alfa USB Wi-Fi</td>
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<tr>
<td>UP</td>
<td>1</td>
<td>Oct-12</td>
<td>$146.00</td>
</tr>
</tbody>
</table>
V. Instruction via Distance Technology

This section should be completed if at least 50 percent of any program/major course is delivered electronically.

The computer information technology program does not currently have any distance learning courses.

VI. Majors/Declared Students

1. State the number of undergraduate/graduate majors/declared students in each degree program under review for the past three years.
   Matrix of declared students in the degree and certificate programs for the past three years is located in Appendix D of this self-study.

2. Describe strategies to recruit, retain, and graduate students.
   Faculty members provide brief program overviews to high school students who visit the campus during college day and preview days each semester. Students are exposed to lab environments and the faculty explains methods and expectations of the program and the employment skills that can be acquired through the program. SAU Tech employs two full-time recruiters who engage traditional and non-traditional potential students throughout the year. The college’s retention efforts include an early alert system, mentoring, academic advising, and tutoring. In addition, faculty use lab time for tutoring students. Students are involved in activities including the Cisco NetRiders Competition and PBL’s competition in computer information technology. The college’s program has a small student-to-instructor ratio.
3. **Provide the number of program graduates over the past three years.**

Matrix of program graduates over the past three years is located in Appendix D of this self-study.

### VII. Program Assessment

1. **Describe the program assessment process and provide outcomes data.**

All SAU Tech’s academic programs fall under the college’s academic assessment plan. The college assesses at the program and course level with student learning goals and outcomes. All academic programs also assess the five general education competencies expected of all graduates in the areas of communication literacy, computer literacy, global awareness, critical thinking, and research skills.

The computer information technology assessment plan with results currently consists of 146 pages and is therefore too large to include in this self-study. The entire program assessment report is available on request. Below is a summary of the assessment results for the previous two years.

- **Student competencies on program goals and outcomes in the networking track emphasis** were at 81.5 percent in academic year 2010-2011 and 86.25 percent in academic year 2011-2012.

- **Student competencies on program goals and outcomes in the technician track emphasis** were at 96.0 percent in academic year 2010-2011 and 94.5 percent in academic year 2011-2012.

2. **Describe program/major exit or capstone requirements.**

Computer information technology program students are expected to acquire computer literacy skills that prepare them for employment within the network technician field or the computer technician field and/or continuing education. The program curriculum is designed to provide the necessary competencies, skills, and knowledge to meet this program expectation. The program does not currently have a capstone course or exam. The program level assessment plan is designed to measure, over the course of the program, student skills and knowledge for program completers.

3. **Provide information on how teaching is evaluated, the use of student evaluations, and how the results have affected the curriculum.**

During the first two years of employment, evaluation is intensive. Evaluation consists of student evaluations of teaching for every class, classroom observation by the vice chancellor for academics (or designee) at least once each semester, and annual self-evaluations.
After the initial first two years of employment, student evaluations continue for every class. During the third and fourth years, the vice chancellor for academics or designee will observe the instructor once each year. After the fourth year, faculty will not be observed unless deemed necessary by the vice chancellor for academics. Faculty will continue to submit self-evaluations each year, and vice chancellor for academics will evaluate faculty based upon student evaluations, self-evaluations, assessment data, student success data, and professional development.

Student evaluations are conducted in every course each semester. The academic departmental secretaries are responsible for overseeing web-based evaluations. The office of planning, accountability and development processes completed assessments. Three copies of the statistical results and student comments are prepared. One copy is given to the instructor, one to the vice chancellor for academics for use in the faculty evaluation process and for record keeping, and one for the chancellor.

In addition, course and program level student learning assessment results are evaluated by the college’s assessment committee. The purpose of the college’s assessment of student learning is improvement of teaching and learning. Data is collected by faculty, analyzed, and used to make relevant revisions to program curricula, courses, and teaching methodologies for the purpose of improving student knowledge and success of program outcomes, goals and objectives.

4. **Provide transfer information for major/declared students including the receiving institutions for transfer and programs of study.**

Until recently the college has been unable to track transfer data. However, with the recent purchase of membership in the National Student Clearinghouse, the college will now be able to track transfer data as long as the institution the student transfers into also uses the service. The Arkansas Department of Higher Education has a process in place to track transfer of students. The data is below.

<table>
<thead>
<tr>
<th>YEAR</th>
<th>STUDENT</th>
<th>INSTITUTION</th>
<th>PROGRAM</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td>DAVIS, Daniel</td>
<td>Henderson State University</td>
<td>Computer Science</td>
</tr>
<tr>
<td></td>
<td>Ethan</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2010</td>
<td>HALEY, Christopher</td>
<td>University of Arkansas-Fayetteville</td>
<td>Unknown</td>
</tr>
<tr>
<td></td>
<td>R.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2010</td>
<td>MEADOR, Brandon</td>
<td>Henderson State University</td>
<td>Computer Science</td>
</tr>
<tr>
<td></td>
<td>T.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2011</td>
<td>YERBY, Cody</td>
<td>Southern Arkansas University-Magnolia</td>
<td>Unknown</td>
</tr>
<tr>
<td></td>
<td>Alan</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2012</td>
<td>NONE FOUND</td>
<td>Not Applicable</td>
<td>Not Applicable</td>
</tr>
</tbody>
</table>

5. **Provide information for program graduates continuing their education by entering graduate school or by performing volunteer service.**

SAU Tech nor the Arkansas Department of Higher Education has a process in place to track transfer of students into graduate programs or volunteer service.
6. **Provide aggregate results of student/alumni/employer satisfaction surveys.**
   The college currently does not have a formal process in place to collect student/alumni/employer satisfaction information. However, faculty members maintain contact with employers regarding satisfaction with the skills and knowledge of graduates hired. Faculty reported that employers are very pleased with the technical skills of SAU Tech’s computer information technology graduates. Employers have suggested that graduates need more soft skills and program faculty are working to infuse more soft skill curricula into the program.

7. **Describe how the program is aligned with the current job market needs of the state or local communities.**
   Employers looking for computer technicians can draw from our graduates who have the required skills, but also from those who have certified by CompTIA A+. Employers looking for entry-level information security personnel, can draw from our graduates with the required skills and mid-level security specialists from those who possess CompTIA Security+ Certifications. Employers looking for entry level network specialists, can draw from our graduates with the required skills and mid-level network specialists from those who possess CompTIA Network+ and Cisco Certifications. Employers looking for advanced security specialists can draw from our graduates with the required skills and possess ISC² SSCP Certifications. Employers looking for computer technicians can draw from our graduates who have the required skills, or certified employees from those who have certified CompTIA A+.

   Employers looking for Cisco Network Specialists can draw from our graduates who have the required skills, and Network Administrators who possess Cisco CCNA certifications. Employers looking for entry level Microsoft specialists can draw from our graduates with the required skills and Microsoft System Administrators from those who possess Microsoft MCITP Certifications.

8. **Provide job placement information for program graduates including the number of graduates placed in jobs related to the field of study.**
   Faculty attempted to contact graduates from 2010-2012 to obtain job placement information including names of employer, average hourly rate of pay or salary, and if the company and position held required the credential obtained or if skills obtained in program were useful on the job. Not all graduates were able to be reached and those reached and interviewed did not provide all data requested. Job placement information which was obtained from graduates is provided in Appendix E of this self-study.

**VIII. Program Effectiveness (Strengths & Opportunities)**

1. **List the strengths of the program.**
   Significant strengths of the computer information technology program are that both full-time faculty members hold Master’s degrees and are current in industry-standard certifications in their field of expertise. The program is provided using the latest technology, software, and equipment needs for program instruction with reasonable budget limits.
The program has a strong, industry-based program advisory committee. Current committee members are:

Caleb Wagnon, Technology Specialist, Sheridan Arkansas School District  
David Miller, Information Technology Site Manager, Aerojet Corporation  
Gary Hickson, Assistant Director for Networks/Telecommunications, Southern Arkansas University  
Paul Honnell, Information Technology Program Manager, Lockheed Martin Corporation  
Charles Biggers, System Administrator, Spectra Technologies  
John Pipkin, District Technology Coordinator, Harmony Grove Arkansas School District  
Andrew Qualls, Human Resources Systems & Project Manager, Murphy Oil Corporation

2. **List the areas of the program most in need of improvement.**

Industry certification exam fees have hindered many students who otherwise would be willing to take them. Administration and faculty are considering options to solve this issue such as course fees to cover certification costs or grant funding for exam vouchers. Certification Exam approximate costs are:

<table>
<thead>
<tr>
<th>Exam Type</th>
<th>Cost</th>
<th>Number of Exams</th>
</tr>
</thead>
<tbody>
<tr>
<td>Microsoft/MCITP</td>
<td>$80 per Exam – 5 Exams</td>
<td></td>
</tr>
<tr>
<td>CompTIA Exams:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A+</td>
<td>$173 per Exam – 2 Exams</td>
<td></td>
</tr>
<tr>
<td>Security+</td>
<td>$266 per Exam – 1 Exam</td>
<td></td>
</tr>
<tr>
<td>Network+</td>
<td>$246 per Exam – 1 Exam</td>
<td></td>
</tr>
<tr>
<td>Cisco CCENT</td>
<td>$150 per Exam – 1 Exam</td>
<td></td>
</tr>
<tr>
<td>Cisco CCNA</td>
<td>$295 per Exam – 1 Exam</td>
<td></td>
</tr>
<tr>
<td>ISC² SSCP</td>
<td>$250 per Exam – 1 Exam</td>
<td></td>
</tr>
</tbody>
</table>

Another area of concern is providing job placement services for students successfully completing the program. The college is investigating the possibility of hiring a student success and placement coordinator which would resolve this program concern. Currently there is no process for tracking students into the workforce or continuing education after graduation.

3. **List program improvements accomplished over the past two years.**

The college has recently enrolled in the CompTIA Authorized Partner Program. The CompTIA Authorized Partner Program for Academy Partners offers a robust educational program designed to assist academic institutions, nonprofit organizations, and government retraining agencies in enhancing the learning experience for students preparing for an IT career.

The CompTIA Authorized Partner Program helps students acquire the necessary knowledge, skills, and credentials for a successful IT career path. This includes resources to help students choose potential paths of employment, and education on opportunities for long-term career growth. The program includes information, tools, and resources designed to help school administrators and instructors plan, prepare, and deliver an effective IT curriculum.
4. **Describe planned program improvements, including a timetable and the estimated costs. Identify program improvement priorities.**

   A. Marketing of the program as a leader in IT instruction fits within the college’s core enrollment goals. The estimated cost is $5000 per year.

   B. Maintaining up-to-date, industry-standard technology in labs is an on-going priority for the program with an estimated cost of $20,000 per year.

   C. Develop a comprehensive student tracking system for monitoring student development that ensures students retention and success. The cost is unknown at this time.

   D. Develop additional credentials based on program curricula at no cost:
      i. Technical Certificate in Information Systems Security
      ii. Technical Certificate in Computer Technician
      iii. Certificate of Proficiency in IT Network Specialist
      iv. Certificate of Proficiency in IT Security Specialist

IX. **Institutional Review Team**

   List the names/departments of this self-study, the committee chair and committee members.
   
   Robert Gunnels, Vice Chancellor for Academics, Chair
   Jill McCollum, Computer Information Technology, Faculty
   Robert Brown, Computer Information Technology, Faculty
   Caleb Wagnon, Sheridan School District
   David Miller, Aerojet Corporation
   Gary Hickson, Southern Arkansas University
   Paul Honnell, Lockheed Martin Corporation
   Charles Biggers, Spectra Technologies
   John Pipkin, Harmony Grove School District
   Andrew Qualls, Murphy Oil Corporation
APPENDIX A
Computer Information Technology
Program Credentials

COMPUTER INFORMATION TECHNOLOGY
Associate of Applied Science Degree

Emphasis Area: ☐ Network & System Administrator  ☐ Computer Technician Emphasis

<table>
<thead>
<tr>
<th>DEVELOPMENTAL COURSE WORK</th>
<th>Semester</th>
<th>Grade</th>
<th>Credits</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Need</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>☐ CO0143 Introduction to Language Arts</td>
<td></td>
<td></td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>☐ CO0243 Writing Workshop</td>
<td></td>
<td></td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>☐ GSTD1003 Freshman Seminar</td>
<td></td>
<td></td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>REQUIRED according to placement test scores such as: ACT, ASSET, COMPASS or SAT</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>REQUIREMENTS</th>
<th>Semester</th>
<th>Grade</th>
<th>Credits</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Need</td>
<td>First Semester:</td>
<td>(15)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>☐ CS1004 CISCO Networking I</td>
<td></td>
<td></td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>☐ EE2804 Basic PC Troubleshooting</td>
<td></td>
<td></td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>☐ MATH1003 Technical Math</td>
<td></td>
<td></td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>☐ NT1014 Support Network Clients</td>
<td></td>
<td></td>
<td>4</td>
<td></td>
</tr>
</tbody>
</table>

| Need         | Second Semester: | (15) |         |          |
| ☐ ENGL1113 Composition I |  |       | 3       |          |
| ☐ CS1104 CISCO Networking II |  |       | 4       |          |
| ☐ EE2904 Advanced PC Troubleshooting |  |       | 4       |          |
| ☐ NT1114 Support Network Servers |  |       | 4       |          |

| Need         | Third Semester | (15) |         |          |
| ☐ ENGL1123 Composition II or |  |       | 3       |          |
| ☐ CO2213 Technical Writing |  |       |         |          |
| ☐ NT2204 Security + |  |       | 4       |          |
| ☐ CS/NT Emphasis Elective |  |       | 4       |          |
| ☐ CS/NT Emphasis Elective |  |       | 4       |          |

| Need         | Fourth Semester | (15) |         |          |
| ☐ CS2014 Enterprise Security |  |       | 4       |          |
| ☐ CS/NT Emphasis Elective |  |       | 4       |          |
| ☐ CS/NT Emphasis Elective |  |       | 4       |          |
| ☐ 3 Social Science Elective |  |       | 3       |          |

| Total Requirements: | 60 |

STUDENTS SHOULD CHOOSE EMPHASIS AREA TRACK FOR ELECTIVES:

**Network & System Administrator Emphasis:**

<table>
<thead>
<tr>
<th>Third Semester</th>
<th>Computer Technician Emphasis:</th>
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<tbody>
<tr>
<td>CS1204 CISCO Networking III</td>
<td>CS2084 A+ Essentials</td>
</tr>
<tr>
<td>NT2114 Support Network Infrastructure</td>
<td>NT2444 Network +</td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>Fourth Semester</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>CS1304 CISCO Networking IV</td>
<td>CS2094 A+ Practical Applications</td>
</tr>
<tr>
<td>CS2334 Active Directory</td>
<td>NT2464 Server +</td>
</tr>
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</table>

Revised May 23, 2012
Certificate of Proficiency
A+ CERTIFICATION

<table>
<thead>
<tr>
<th>Need</th>
<th>REQUIREMENTS</th>
<th>Semester</th>
<th>Grade</th>
<th>Credits</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>☐</td>
<td>CS2084 A+ Essentials</td>
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<td>4</td>
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<tr>
<td>☐</td>
<td>CS2094 A+ Practical Applications</td>
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<td></td>
</tr>
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</table>

Total Requirements: 8

Revised April 26, 2012

Certificate of Proficiency
COMPUTER INFORMATION – CISCO NETWORKING

Name: _______ Student ID: _______

I understand that when seeking a degree, I may be required to enroll in basic skills courses as a result of my test scores and Arkansas Law, Act 1052, and it will take additional semester(s) to complete a degree at SAU Tech.

<table>
<thead>
<tr>
<th>Need</th>
<th>REQUIREMENTS</th>
<th>Semester</th>
<th>Grade</th>
<th>Credits</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>☐</td>
<td>CS1004 CISCO Networking I</td>
<td></td>
<td></td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>☐</td>
<td>CS1104 CISCO Networking II</td>
<td></td>
<td></td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>☐</td>
<td>CS1204 CISCO Networking III</td>
<td></td>
<td></td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>☐</td>
<td>CS1304 CISCO Networking IV</td>
<td></td>
<td></td>
<td>4</td>
<td></td>
</tr>
</tbody>
</table>

Total Requirements: 16

April 24, 2012
Certificate of Proficiency
COMPUTER INFORMATION TECHNOLOGY
Microsoft Certified IT Professional

<table>
<thead>
<tr>
<th>Need</th>
<th>REQUIREMENTS</th>
<th>Semester</th>
<th>Grade</th>
<th>Credits</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>☐ NT1014</td>
<td>Support Network Clients</td>
<td></td>
<td></td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>☐ NT1114</td>
<td>Support Network Servers</td>
<td></td>
<td></td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>☐ NT2114</td>
<td>Supporting Network Infrastructure</td>
<td></td>
<td></td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>☐ CS2334</td>
<td>Active Directory</td>
<td></td>
<td></td>
<td>4</td>
<td></td>
</tr>
</tbody>
</table>

Total Requirements: 16

June 20, 2012

Certificate of Proficiency
COMPUTER ENGINEERING

The Certificate of Proficiency in Computer Engineering is designed for students enrolled in the SAU Tech Career Academy Computer Engineering Program and concurrent credit students completing the appropriate Concurrent Enrollment Plan in Computer Engineering at partner high schools/secondary academies. This CP will fold directly into the AAS in Computer Information Technology as a career pathway.

Name: _____  Student ID: _____

<table>
<thead>
<tr>
<th>Need</th>
<th>REQUIREMENTS</th>
<th>Semester</th>
<th>Grade</th>
<th>Credits</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>☐ MIS100 3</td>
<td>Introduction to Computers</td>
<td></td>
<td></td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>☐ EE2804</td>
<td>Basic PC Troubleshooting</td>
<td></td>
<td></td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>☐ EE2904</td>
<td>Adv PC Troubleshooting</td>
<td></td>
<td></td>
<td>4</td>
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<td>☐ NT1014</td>
<td>Support Network Clients</td>
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<td>4</td>
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</tr>
</tbody>
</table>

Total Requirements: 15
Southern Arkansas University Tech
CS-1004 Cisco Networking I
Instructor: Jill McCollum
Course Syllabus
Fall 2012

SAU Tech Mission Statement
Southern Arkansas University Tech is a comprehensive, two-year, public college committed to providing quality educational programs to meet the needs of its service area. Within its resources, the college accomplishes its mission through technical career programs, transfer curricula, continuing education, developmental education, and administrative, student, and community service.

SAU Tech Assessment Philosophy
Southern Arkansas University Tech has developed a program to assess the learning outcomes of its students to assure that the College is achieving its mission. The Assessment Program is designed to measure the level of skills and competencies gained by students at the program and course levels as well as within the General Education curriculum for all Associate Degree students. Assessment activities are performed in a number of ways including placement exams prior to enrollment, program level goals and objectives, and classroom assessment techniques. Faculty identifies desired student learning outcomes on the program and classroom level and then assesses through various methodologies how well those outcomes have been achieved. The college uses the data obtained from assessment measures to improve student academic achievement and the instructional methodologies delivered by the institution.

SAU Tech ADA Policy
SAU Tech recognizes that a disability may preclude a student from demonstrating required course competencies or from completing course requirements necessary for an A.A., A.S., or A.A.S. degree or certificate programs in the same manner expected of nondisabled students. In compliance with Section 504 of the Rehabilitation Act of 1973, and the Americans with Disabilities Act of 1990, qualified students with disabilities may request that appropriate course accommodations be considered. Students are encouraged to meet with Disability Services to develop a plan for their academic accommodations. Requests for accommodations must be made within two (2) weeks of the start of each semester.

I. Course Name and Number: CS-1004 Cisco Networking I

II. Meeting Schedule: MW 12:45-2:30 & 5:30-7:15

III. Instructional Information:
   Instructor: Jill McCollum Office: Tech Engineering Bldg. #13
   Phone: 870-574-4539 e-mail: jmccollu@sautech.edu
   Fax: 870-574-4538
IV. Prerequisites: None

V. Course Description:
This is the first of four semester courses designed to provide students with classroom and laboratory experience in current and emerging networking technology that will empower them to enter employment and/or further education and training in the computer networking field. A task analysis of current industry standards and occupational analysis was used to develop the content standards. Instruction includes, but is not limited to, introduction to computers, peripherals and operating systems; network and Internet connections; network addressing; network services and basic security; and basic troubleshooting.

VI. Course Outcomes:
Upon successful completion of this course the student will achieve a minimum 70% proficiency on the following course outcomes:

1. Introduction to Computers, Peripherals and Operating Systems
   • Conversion of Binary Data Representation
   • Identify and Describe the Purpose of Operating Systems, Applications, and Peripherals
2. Network and Internet Connections
   • Identify Logical and Physical Topologies
   • Define the Purpose of Networking Devices
   • Work with Cabling Standards
   • Implement a Wireless LAN
3. Network Addressing
   • Describe Public and Private Addressing
   • Static and Dynamic Address Assignment
4. Network Services and Basic Security
   •Differentiate between Communication Protocols
   • Identify Network Security Threats
5. Basic Troubleshooting
   • Explore Troubleshooting Methodologies
   • Use Common Troubleshooting Tools
VII. **Textbook & Learning Materials:**

VIII. **Supplies:**
3-ring binder, paper, and writing utensil

IX. **Course Requirements & Policies:**
1. In order to pass this course and eventually the CCNA exam, you **MUST** read the curriculum. This will be a rigorous and demanding class. In order to cover the required material we will move very quickly, you must keep up, as we cannot wait on you. Students are expected to attend ALL classes. This is **NOT** an Internet course your attendance is imperative. The hands-on labs that we will be doing in class for a grade will **NOT** be available for make-up, unless the instructor is notified in advance of a legitimate excuse. Discuss any makeup work immediately upon your return or it will not be accepted. Late work may be accepted late for a letter grade deduction. Two unexcused absences could cause you to be dropped from the class.

2. Students are expected to arrive for class on time. Students may enter the classroom after class has started, but should be careful not to disrupt class. Excessive tardiness should be avoided. Students who are tardy must see the instructor after class. Two tardies equals one absence.

3. All work you want credit for must be submitted prior to taking that unit’s test. The on-line tests have to be activated by the instructor and will be taken in the lab. Always bring supplies to class with you.

4. Students shall **NOT** propagate (print) the curriculum. Students suspected of cheating will receive a score of zero. If it is determined that work has been shared, all parties involved will receive no credit for that assignment or exam. There will be no make-up for the missed score. Suspects are guilty until proven innocent.

5. All students are expected to conduct themselves in a pleasant, civil, courteous, and sociable manner at all times in the course. Rudeness, bigotry, sarcasm, and/or obscene or abusive language will not be tolerated. Students displaying such behavior will be required to leave the course. Any student dismissed from a course for such behavior must seek the approval of the Vice chancellor for academics to reenter the course. Repeated objectionable behavior or disruption of the class will result in permanent dismissal. Faculty members are expected to dismiss students from their courses whose behavior is detrimental to good order and a positive learning environment.
X. **Learning Assessments:**
Grades will be assigned based on on-line tests, skills tests, labs, quizzes, and assignments. There will be an on-line multiple choice test for each chapter. The final exams will be comprehensive and include a skills test and an on-line multiple-choice test. Tests will have a time limit. The Skills Final will include installation of a simple network, testing network functionality, and troubleshooting in a limited time. Grades will be assigned as follows: **Labs and assignments 25%, Chapter Tests 25%, Skills Final 25%, On-Line Final 25%**.

XI. **Mastery Level:**
Grades will be assigned according to the following scale:
- A = 90 – 100%
- B = 80 – 89%
- C = 70 – 79%
- D = 60 – 69%
- F = Below 60%

Revised 08/17/11
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I. Course Name and Number: CS-1104 Cisco Networking II

II. Meeting Schedule: MW 12:45-2:30

III. Instructional Information:
Instructor: Jill McCollum Office: Tech Engineering Bldg. #13
Phone: 870-574-4539 e-mail: jmccollu@sautech.edu
Fax: 870-574-4538

IV. Prerequisites: CS1004 Cisco Networking I
V. Course Description:
This is the second of four semester courses designed to provide students with classroom and laboratory experience in current and emerging networking technology that will empower them to enter employment and/or further education and training in the computer networking field. A task analysis of current industry standards and occupational analysis was used to develop the content standards. Instruction includes, but is not limited to, network terminology, devices, and protocols, topologies, OSI model, media, cable testing, LANs, Ethernet, switching, TCP/IP Addressing Protocol, routing and routed protocols, tools, and network standards.

VI. Course Outcomes:
Upon successful completion of this course the student will achieve a minimum 70% proficiency on the following course outcomes:

6. Implementing ISP Support, Services, and Responsibilities
7. Plan a Network Upgrade
8. Manage the Addressing Structure
9. Configuring Network Devices
10. Enable Routing

Outcome Objectives/Measures:
1. Implementing ISP Support, Services, and Responsibilities
   • OSI Model Troubleshooting
   • Creating and Using Help Desk Records
   • Support Services (DNS, HTTP, FTP)
   • Implement Security Tools
2. Plan a Network Upgrade
   • Conduct Site Surveys
   • Purchase and Maintain Equipment
3. Manage the Addressing Structure
   • Implement IP Addressing
   • Use NAT/PAT
4. Configuring Network Devices
   • Initial Router Configuration
   • Initial Switch Configuration
5. Enable Routing
   • Configure Interior Routing Protocols
   • Configure Exterior Routing Protocols
VII. **Textbook & Learning Materials:**

VIII. **Supplies:**
Internet Access, 3-ring binder, paper, and writing utensil

IX. **Course Requirements & Policies:**
6. In order to pass this course and eventually the CCNA exam, you **MUST** read the curriculum. This will be a rigorous and demanding class. In order to cover the required material we will move very quickly, you must keep up, as we cannot wait on you. Students are expected to attend ALL classes. This is **NOT** an Internet course, your attendance is imperative. The hands-on labs that we will be doing in class for a grade will **NOT** be available for make-up, unless the instructor is notified in advance of a legitimate excuse. Discuss any makeup work immediately upon your return or it will not be accepted. Late work may be accepted late for a letter grade deduction. Two unexcused absences could cause you to be dropped from the class.

7. Students are expected to arrive for class on time. Students may enter the classroom after class has started, but should be careful not to disrupt class. Excessive tardiness should be avoided. Students who are tardy must see the instructor after class. Two tardies equals one absence.

8. All work you want credit for must be submitted prior to taking that unit’s test. The on-line tests have to be activated by the instructor and will be taken in the lab. Always bring supplies to class with you.

9. Students suspected of cheating will receive a score of zero. If it is determined that work has been shared, all parties involved will receive no credit for that assignment or exam. There will be no make-up for the missed score. Suspects are guilty until proven innocent.

10. All students are expected to conduct themselves in a pleasant, civil, courteous, and sociable manner at all times in the course. Rudeness, bigotry, sarcasm, and/or obscene or abusive language will not be tolerated. Students displaying such behavior will be required to leave the course. Any student dismissed from a course for such behavior must seek the approval of the Vice chancellor for academics to reenter the course. Repeated objectionable behavior or disruption of the class will result in permanent dismissal. Faculty members are expected to dismiss students from their courses whose behavior is detrimental to good order and a positive learning environment.
X. **Learning Assessments:**
Grades will be assigned based on on-line tests, skills tests, labs, quizzes, and assignments. There will be an on-line multiple choice test for each chapter. The final exams will be comprehensive and include a skills test and an on-line multiple-choice test. Tests will have a time limit. Students must meet Cisco’s attendance policy and take both the on-line Final and the Skills Final to be eligible to take further Cisco Networking classes. Grades will be assigned as follows: **Labs and assignments 25%, Chapter Tests 25%, Skills Final 25%, and Online Final 25%**.

**Mastery Level:**
Grades will be assigned according to the following scale:
- A = 90 – 100%
- B = 80 – 89%
- C = 70 – 79%
- D = 60 – 69%
- F = Below 60%
Southern Arkansas University Tech
CS-1204 Cisco Networking III
Instructor: Jill McCollum
Course Syllabus
Fall 2012

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SAU Tech ADA Policy
SAU Tech recognizes that a disability may preclude a student from demonstrating required course competencies or from completing course requirements necessary for an A.A., A.S., or A.A.S. degree or certificate programs in the same manner expected of nondisabled students. In compliance with Section 504 of the Rehabilitation Act of 1973, and the Americans with Disabilities Act of 1990, qualified students with disabilities may request that appropriate course accommodations be considered. Students are encouraged to meet with Disability Services to develop a plan for their academic accommodations. Requests for accommodations must be made within two (2) weeks of the start of each semester.

I. Course Name and Number: CS-1204 Cisco Networking III

II. Meeting Schedule: MW 8:30-10:15

III. Instructional Information:
Instructor: Jill McCollum  Office: Tech Engineering Bldg. #13
Phone: 870-574-4539  e-mail: jmccollu@sautech.edu
Fax: 870-574-4538

Office Hours: MW 2:30-5:30  TR 9:00-11:00
IV. **Prerequisites:** CS1104 Cisco Networking II

V. **Course Description:**
This is the third of four semester courses designed to provide students with classroom and laboratory experience in current and emerging networking technology that will empower them to enter employment and/or further education and training in the computer networking field. A task analysis of current industry standards and occupational analysis was used to develop the content standards. Instruction includes, but is not limited to, network infrastructure, switching, addressing, routing with distance vector and link-state protocols, implementing WAN links, filtering traffic with access lists, and troubleshooting.

VI. **Course Outcomes:**
Upon successful completion of this course the student will achieve a minimum 70% proficiency on the following course outcomes:

11. Implementing Switching
12. IP Addressing in an Enterprise
13. Configure Advanced Routing Protocols
14. Connect WAN Links
15. Filter Traffic

**Outcome Objectives/Measures:**
1. Implementing Switching
   • Prevent loops with STP
   • Segment with VLANs
   • Inter-VLAN routing
   • Trunking with VTP
2. IP Addressing in an Enterprise
   • Use VLSM
   • Implement CIDR
   • Incorporate NAT/PAT
3. Configure Advanced Routing Protocols
   • EIGRP
   • OSPF
4. Connect WAN Links
   • Configure HDLC
   • Configure PPP
5. Filter Traffic
   • Write Standard, Extended, and Named ACLs
   • Employ ACLs
   • Analyze ACLs

VII. **Textbook & Learning Materials:**
Curriculum is on-line and Introducing Routing and Switching in the Enterprise

VIII. Supplies: Internet Access, 3-ring binder, paper, and writing utensil

IX. Course Requirements & Policies:
11. In order to pass this course and eventually the CCNA exam, you MUST read the
curriculum. This will be a rigorous and demanding class. In order to cover the
required material we will move very quickly, you must keep up, as we cannot
wait on you. Students are expected to attend ALL classes. This is NOT an
Internet course, your attendance is imperative. The hands-on labs that we will be
doing in class for a grade will NOT be available for make-up, unless the
instructor is notified in advance of a legitimate excuse. Discuss any makeup work
immediately upon your return or it will not be accepted. Late work may be
accepted late for a letter grade deduction. Two unexcused absences could cause
you to be dropped from the class.

12. Students are expected to arrive for class on time. Students may enter the
classroom after class has started, but should be careful not to disrupt class.
Excessive tardiness should be avoided. Students who are tardy must see the
instructor after class. Two tardies equals one absence.

13. All work you want credit for must be submitted prior to taking that unit’s test. The
on-line tests have to be activated by the instructor and will be taken in the lab.
Always bring supplies to class with you,

14. Students shall NOT propagate (print) the curriculum. Students suspected of
cheating will receive a score of zero. If it is determined that work has been shared,
all parties involved will receive no credit for that assignment or exam. There will
be no make-up for the missed score. Suspects are guilty until proven innocent.

15. All students are expected to conduct themselves in a pleasant, civil, courteous,
and sociable manner at all times in the course. Rudeness, bigotry, sarcasm, and/or
obscene or abusive language will not be tolerated. Students displaying such
behavior will be required to leave the course. Any student dismissed from a
course for such behavior must seek the approval of the Vice chancellor for
academics to reenter the course. Repeated objectionable behavior or disruption of
the class will result in permanent dismissal. Faculty members are expected to
dismiss students from their courses whose behavior is detrimental to good order
and a positive learning environment.

X. Learning Assessments:
Grades will be assigned based on on-line tests, skills tests, labs, quizzes, and
assignments. There will be an on-line multiple choice test for each chapter. The final
exams will be comprehensive and include a skills test and an on-line multiple-choice
test. Tests will have a time limit. Grades will be assigned as follows: Labs and assignments 25%, Chapter Tests 25%, Skills Final 25%, On-Line Final 25%.

Mastery Level:
Grades will be assigned according to the following scale:
- A = 90 – 100%
- B = 80 – 89%
- C = 70 – 79%
- D = 60 – 69%
- F = Below 60%
Southern Arkansas University Tech
CS-1304 Cisco Networking IV
Course Syllabus

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I. Course Name and Number: CS-1304 Cisco Networking IV

II. Meeting Schedule: MW 8:30-10:15

III. Instructional Information:
Instructor: Office:
Phone: e-mail:
Fax:

Office Hours:

IV. Prerequisites: CS1204 Cisco Networking III
V. **Course Description:**
This is the fourth of four semester courses designed to provide students with classroom and laboratory experience in current and emerging networking technology that will empower them to enter employment and/or further education and training in the computer networking field. A task analysis of current industry standards and occupational analysis was used to develop the content standards. Instruction includes, but is not limited to, designing small enterprise LANs and WANS; selecting equipment, protocols, and topologies to meet customer requirements; implementing security; and analyzing traffic flow.

VI. **Course Outcomes:**
Upon successful completion of this course the student will achieve a minimum 70% proficiency on the following course outcomes:

16. Network Design
17. Characterize a Network
18. Network Monitoring
19. Hierarchical Addressing
20. Prototype and Test Network Design

**Outcome Objectives/Measures:**

1. Network Design
   - Redundancy and Convergence
   - Traffic Filtering and QoS
   - Wireless Considerations
   - WANS and Remote Access

2. Characterize a Network
   - Use Feature Navigator
   - Install and Update the IOS and Determine Capabilities
   - Inspect Hardware Options

3. Network Monitoring
   - Diagram Traffic Flows with NetFlow
   - Analyze Network Traffic with NBAR (Network-Based Application Recognition
   - Manage the Network with SNMP (Simple Network Management Protocol)

4. Hierarchical Addressing
   - Use CIDR for Route Summarization
   - Design VLSM scheme
   - Describe IPv6

5. Prototype and Test Network Design
   - Incorporate Load Balancing and Floating Static Routes
   - Implement RSTP and VLANs on Switches
   - Employ PPP, VPNs, and Frame Relay for WAN links
   - Provide security with ACLs
VII. **Textbook & Learning Materials:**

VIII. **Supplies:**
Internet Access, 3-ring binder, paper, and writing utensil

IX. **Course Requirements & Policies:**
16. In order to pass this course and eventually the CCNA exam, you **MUST** read the curriculum. This will be a rigorous and demanding class. In order to cover the required material we will move very quickly, you must keep up, as we cannot wait on you. Students are expected to attend ALL classes. This is **NOT** an Internet course, your attendance is imperative. The hands-on labs that we will be doing in class for a grade will **NOT** be available for make-up, unless the instructor is notified in advance of a legitimate excuse. Discuss any makeup work immediately upon your return or it will not be accepted. Late work may be accepted late for a letter grade deduction. Two unexcused absences could cause you to be dropped from the class.

17. Students are expected to arrive for class on time. Students may enter the classroom after class has started, but should be careful not to disrupt class. Excessive tardiness should be avoided. Students who are tardy must see the instructor after class. Two tardies equals one absence.

18. All work you want credit for must be submitted prior to taking that unit’s test. The on-line tests have to be activated by the instructor and will be taken in the lab. Always bring supplies to class with you.

19. Students suspected of cheating will receive a score of zero. If it is determined that work has been shared, all parties involved will receive no credit for that assignment or exam. There will be no make-up for the missed score. Suspects are guilty until proven innocent.

20. All students are expected to conduct themselves in a pleasant, civil, courteous, and sociable manner at all times in the course. Rudeness, bigotry, sarcasm, and/or obscene or abusive language will not be tolerated. Students displaying such behavior will be required to leave the course. Any student dismissed from a course for such behavior must seek the approval of the Vice Chancellor for Instruction to reenter the course. Repeated objectionable behavior or disruption of the class will result in permanent dismissal. Faculty members are expected to dismiss students from their courses whose behavior is detrimental to good order and a positive learning environment.
X. **Learning Assessments:**
Grades will be assigned based on on-line tests, skills tests, labs, quizzes, and assignments. There will be an on-line multiple choice test for each chapter. The final exams will be comprehensive and include a skills test and an on-line multiple-choice test. Tests will have a time limit. Students must meet Cisco’s attendance policy and take both the on-line Final and the Skills Final. Grades will be assigned as follows: **Labs and assignments 25%, Chapter Tests 25%, Skills Final 25%, Online Final 25%**.

XI. **Mastery Level:**
Grades will be assigned according to the following scale:
- A = 90 – 100%
- B = 80 – 89%
- C = 70 – 79%
- D = 60 – 69%
- F = Below 60%
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I. **Course Name and Number:** CS-2334  Active Directory

II. **Meeting Schedule:** Independent Study

III. **Instructional Information:**
Instructor: Jill McCollum  
Office: Technology Building #13
Phone: 574-4539  
e-mail: jmccollu@sautech.edu

IV. **Prerequisites:** NT1114 Support Network Servers
V. **Course Description:**
This is the fourth of four courses designed to prepare students in becoming a Microsoft Certified Information Technology Professionals (MCITP). This course has been designed using the objectives for the Microsoft Certification Exam 70-640 Configuring Windows Server 2008 Active Directory. Students will learn to configure DNS, infrastructure, additional server roles, and certificate services for Active Directory; create and maintain objects and the environment in Active Directory. Topics may include installation, implementation, sites, global catalog, flexible single master operations, security, group policy, maintenance, troubleshooting, and disaster recovery as they relate to the Active Directory.

VI. **Course Outcomes:**
Upon successful completion of this course the student will achieve a minimum 70% proficiency on the following course outcomes:

1. Configure Domain Name System (DNS) for Active Directory
2. Configure the Active Directory Infrastructure
3. Configure Additional Active Directory Server Roles
4. Create and Maintain Active Directory Objects
5. Maintaining the Active Directory Environment
6. Configuring Active Directory Certificate Services

**Outcome Objectives/Measures:**

1. Configure Domain Name System (DNS) for Active Directory
   - Install and Configure DNS
   - Configure Advanced Zone Features
   - Implement Root Hints

2. Configure the Active Directory Infrastructure
   - Setup Site Replication
   - Troubleshoot Operations Masters
   - Design Trusts

3. Configure Additional Active Directory Server Roles
   - Install and Configure Lightweight Directory Services (AD LDS)
   - Install and Configure Federation Services (AD FS)
   - Install and Configure Rights Management Services (AD RMS)

4. Create and Maintain Active Directory Objects
   - Create Organizational Units, User Accounts, Computer Accounts, and Groups
   - Implement a Group Strategy
   - Use Object Management Tools

5. Maintaining the Active Directory Environment
   - Perform an Active Directory Backup and Restore
6. Configuring Active Directory Certificate Services
   - Install Active Directory Certificate Services
   - Manage Certificate Templates, Requests, and Revocations
   - Explore Certificate Implementations

VII. **Textbook & Learning Materials:**
    70-640 Configuring Windows Server 2008 Active Directory LabSim by TestOUT,
    ISBN# 978-1-935080-25-1

VIII. **Supplies:**
     LabSim, 3-ring binder, paper, highlighter, and writing utensil

IX. **Course Requirements & Policies:**
1. This course uses a LabSim product where the course delivery is offered online. The labs are simulated on-line and quizzes and exams will be delivered online. The class will meet in the classroom and Internet access will be provided for the student’s course. The instructor will be available to offer assistance. A student may work ahead of the proposed schedule. The student will need to work on the course outside of the assigned class time in order to make satisfactory progress following the proposed schedule. Objective Exams need to be taken in a proctored environment. If taken in a non-proctored environment no credit will be given (0%). Objective Exams may only be taken once for credit.

2. In order to pass this course and eventually the 70-646 exam, you MUST read the curriculum. Students are expected to attend ALL classes. The instructor must be notified of a legitimate excuse and in advance when possible. Discuss any makeup work immediately upon your return or it will not be accepted. Late work may be accepted late for a letter grade deduction. Two unexcused absences could cause you to be dropped from the class.

2. Students are expected to arrive for class on time. Students may enter the classroom after class has started, but should be careful not to disrupt class. Excessive tardiness should be avoided. Students who are tardy must see the instructor after class. Two tardies equals one absence.

3. Students suspected of cheating will receive a score of zero. If it is determined that work has been shared, all parties involved will receive no credit for that assignment or exam. There will be no make-up for the missed score. Suspects are guilty until proven innocent.

4. All students are expected to conduct themselves in a pleasant, civil, courteous, and sociable manner at all times in the course. Rudeness, bigotry, sarcasm, and/or obscene or abusive language will not be tolerated. Students displaying such behavior will be
required to leave the course. Any student dismissed from a course for such behavior must seek the approval of the vice chancellor for academics to reenter the course. Repeated objectionable behavior or disruption of the class will result in permanent dismissal. Faculty members are expected to dismiss students from their courses whose behavior is detrimental to good order and a positive learning environment.

X. **Learning Assessments:** Grades will be assigned based on chapter tests, labs, objective exams, and assignments. The final exams will be comprehensive. Tests will have a time limit. Grades will be assigned as follows: *Chapter Tests, Labs, and Lesson Assignments 80%; Objective Exams 15%, and FINAL 5%.*

XI. **Mastery Level:**
Grades will be assigned according to the following scale:
- A = 90 – 100%
- B = 80 – 89%
- C = 70 – 79%
- D = 60 – 69%
- F = Below 60%
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I. Course Name and Number: NT1014 – Supporting Network Clients
II. Meeting Schedule: TR 8:30-10:15
III. Instructional Information:
Instructor: Jill McCollum  
Office: Tech Engineering Bldg. #13  
Phone: (870) 574-4539  
E-mail: jmccollu@sautech.edu

Office Hours: MW 2:30-5:30 TR 9:00-11:00
IV. Prerequisites: None
V. **Course Description** This is the first of four courses designed to prepare students in becoming a Microsoft Certified Information Technology Professionals (MCITP). This course has been designed using the objectives for the Microsoft Certification Exam 70-680 Configuring Microsoft Windows 7. Students will learn to plan and install or upgrade to Windows 7; deploy system images and configure application compatibility; implement IPv4, IPv6, wireless, VPN, mobile, and remote connectivity; set up Internet Explorer® and Windows Firewall; configure Windows BitLocker®, UAC, and access to shared resources; manage devices, drivers, and disks; monitor, update, back up, and performance-tune your system.

VI. **Course Outcomes:** Students will achieve a minimum of 70% proficiency on the following course outcomes:

1. Install various versions of Windows
2. Implement and Conduct Administration of Resources
3. Implement, Manage and Troubleshoot Hardware Devices and Drivers
4. Monitor and Optimize System Performance and Reliability
5. Configure and Troubleshoot the Desktop Environment
6. Implement, Manage, and Troubleshoot Network Protocols and Services
7. Implement, Monitor and Troubleshoot Security

VII. **Outcome Objectives/Measures:**
1. Install various versions of Windows
   - Perform and troubleshoot an attended and an unattended installation
   - Upgrade from a previous version
   - Troubleshoot a failed installation
2. Implement and Conduct Administration of Resources
   - Monitor, manage, and troubleshoot file, folder and shared folder access
   - Configure, manage, and troubleshoot file systems
3. Implement, Manage and Troubleshoot Hardware Devices and Drivers
   - Implement, Manage, and Troubleshoot: disk, display, and I/O devices
   - Configure advanced power management
   - Monitor and configure a multi-processor computer
4. Monitor and Optimize System Performance and Reliability
   - Monitor, optimize and troubleshoot system performance
   - Restore and backup the operating system, system state and user data
5. Configure and Troubleshoot the Desktop Environment
   - Configure and manage user profiles and desktop settings
   - Configure support for multiple locations
   - Manage Applications
6. Implement, Manage, and Troubleshoot Network Protocols and Services
   - Configure and troubleshoot TCP/IP
   - Configure, Manage, and Implement: RIS, Remote Desktop & Remote Assistance
7. Implement, Monitor and Troubleshoot Security
   - EFS
   - Security Configuration & Local Security Policy
   - Internet Explorer Security Settings


IX. Supplies: Internet access, 3-ring binder, paper, highlighter, and writing utensil

X. Course Requirements & Policies:
1. This course uses a LabSim product where the course delivery is offered online. The labs are simulated on-line and quizzes and exams will be delivered online. The class will meet in the classroom and Internet access will be provided for the student’s course. The instructor will be available to offer assistance. A student may work ahead of the proposed schedule. A student will need to work on the course outside of the assigned class time in addition to attending the class. Objective Exams need to be taken at the end of each chapter in a proctored environment. If taken in a non-proctored environment no credit will be given (0%). Objective Exams may only be taken once for credit.

2. All students are expected to conduct themselves in a pleasant, civil, courteous, and sociable manner at all times in the course. Rudeness, bigotry, sarcasm, and/or obscene or abusive language will not be tolerated. Students displaying such behavior will be required to leave the course. Any student dismissed from a course for such behavior must seek the approval of the Vice chancellor for academics to reenter the course. Repeated objectionable behavior or disruption of the class will result in permanent dismissal. Faculty members are expected to dismiss students from their courses whose behavior is detrimental to good order and a positive learning environment.

XI. Learning Assessments: Grades will be assigned based on chapter tests, skills tests, labs, quizzes, and assignments. The final exam will be an objective comprehensive test. Tests will have a time limit. Grades will be assigned as follows: Labs, Exams, and Lesson Assignments 85%; Chapter Tests 15%, and FINAL 5%.

XII. Mastery Level:
Grades will be assigned according to the following scale:
   A = 90 – 100%
   B = 80 – 89%
   C = 70 – 79%
   D = 60 – 69%
   F = Below 60%
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I. Course Name and Number: NT2114 Supporting Network Infrastructure

II. Meeting Schedule: TR 12:45-2:30
Office Hours: MW 2:30-5:30 & TR 9:00-11:00

III. Instructional Information:
Instructor: Jill McCollum Office: Tech Engineering Bldg #13
Phone: 870-574-4539 e-mail: jmccollu@sautech.edu

IV. Prerequisites: NT1114 Supporting Network Servers
V. **Course Description** This is the third of four courses designed to prepare students in becoming a Microsoft Certified Information Technology Professionals (MCITP). This course has been designed using the objectives for the Microsoft Certification Exam 70-642 Configuring Server 2008 Network Infrastructure. Students will learn about configuring IP addressing, routing, name resolution, network access, file and print services, and monitoring and managing a network infrastructure.

VI. **Course Outcomes:** Students will achieve a minimum 70% proficiency on the following course outcomes:

1. Installing, Configuring, Managing, Monitoring, and Troubleshooting IP Addressing in a Windows Network Infrastructure.

2. Installing, Configuring, Managing, Monitoring, and Troubleshooting Name Resolution in a Windows Network Infrastructure.


5. Installing, Configuring, Managing, Monitoring, and Troubleshooting Maintaining a Network Infrastructure in a Windows Network Infrastructure.

**Outcome Objectives/Measures:**

1. **IP Addressing**
   - Configure IP addressing
   - Installing, Configuring, Managing, Monitoring, and Troubleshooting DHCP

2. **Name Resolution**
   - Installing, Configuring, Managing, Monitoring, and Troubleshooting DNS
   - NetBIOS and WINS

3. **Network Security**
   - Secure Network Traffic using IPSec
   - IAS and RADIUS
   - Security Templates

4. **Routing and Remote Access**
   - Enable and Configure Remote Access
   - Configure Routing

5. **Maintaining a Network Infrastructure**
   - Troubleshooting Methodology
   - Troubleshooting Tools

VII. **Textbook & Learning Materials:** 70-642 *Windows Server 2008 Network Infrastructure LabSim*, TestOut; ISBN# 978-1-935080-24-4
VIII. Supplies: Internet Access, 3-ring binder, paper, highlighter, and writing utensil

IX. Course Requirements & Policies:
1. This course uses a LabSim product where the course delivery is offered online. The labs are simulated on-line and quizzes and exams will be delivered online. The class will meet in the classroom and Internet access will be provided for the student’s course. The instructor will be available to offer assistance. A student may work ahead of the proposed schedule. A student may choose to work on the course outside of the assigned class. Objective Exams need to be in a proctored environment. If taken in a non-proctored environment no credit will be given (0%). Objective Exams may only be taken once for credit.

2. All students are expected to conduct themselves in a pleasant, civil, courteous, and sociable manner at all times in the course. Rudeness, bigotry, sarcasm, and/or obscene or abusive language will not be tolerated. Students displaying such behavior will be required to leave the course. Any student dismissed from a course for such behavior must seek the approval of the Vice chancellor for academics to reenter the course. Repeated objectionable behavior or disruption of the class will result in permanent dismissal. Faculty members are expected to dismiss students from their courses whose behavior is detrimental to good order and a positive learning environment.

X. Learning Assessments: Grades will be assigned based on chapter tests, skills tests, labs, quizzes, and assignments. The final exam will be an objective comprehensive test. Tests will have a time limit. Grades will be assigned as follows: Labs, Exams, and Lesson Assignments 85%; Chapter Tests 15%, and FINAL 5%.

XI. Mastery Level:
Grades will be assigned according to the following scale:

   A = 90 – 100%
   B = 80 – 89%
   C = 70 – 79%
   D = 60 – 69%
   F = Below 60%
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I. Course Name and Number: NT1114 – Supporting Network Servers

II. Meeting Schedule: TR 8:30-10:15

III. Instructional Information:
   Instructor: Jill McCollum   Office: Tech Engineering Bldg. #13
   Phone: (870) 574-4539   E-mail: jmccollu@sautech.edu

IV. Prerequisites: NT1014 – Supporting Network Clients

V. Course Description This is the second of four courses designed to prepare students in becoming a Microsoft Certified Information Technology Professionals (MCITP). This course has been designed using the objectives for the Microsoft Certification
Exam 70-646 Windows Server 2008 Administrator. Students will learn to plan for server deployment and management, monitor and maintain the server, plan application and data provisioning, and dealing with business continuity and availability.

VI. Course Outcomes: Students will achieve a minimum of 70% proficiency on the following course outcomes:

1. Managing and Maintaining Physical and Logical Devices
2. Managing Users, Computers, and Groups
3. Managing and Maintaining Access to Resources
4. Managing and Maintaining a Server Environment
5. Managing and Implementing Disaster Recovery

VII. Outcome Objectives/Measures:

1. Managing and Maintaining Physical and Logical Devices
   - Manage Hardware Devices
   - Manage Disks and Data Storage
2. Managing Users, Computers, and Groups
   - Creating and Managing User Accounts
   - Implementing and Managing Group and Computer Accounts
3. Managing and Maintaining Access to Resources
   - Managing File Access
   - Advanced File System Management
4. Managing and Maintaining a Server Environment
   - Server Administration
   - Monitoring Server Performance
   - Server Security Features
   - Managing Printers and Web Resources
5. Managing and Implementing Disaster Recovery
   - Managing and Implementing Backups
   - Managing and Implementing Disaster Recovery


IX. Supplies: LabSim, 3-ring binder, paper, highlighter, and writing utensil

X. Course Requirements & Policies:

1. This course uses a LabSim product where the course delivery is offered online. The labs are simulated on-line and quizzes and exams will be delivered online. The class will meet in the classroom and Internet access will be provided for the student’s course. The instructor will be available to offer assistance. A student may work ahead of the proposed schedule. The student will need to work on the course outside of the assigned class time in order to make satisfactory progress following the proposed schedule. Objective Exams need to be taken in a proctored
environment. If taken in a non-proctored environment no credit will be given (0%). Objective Exams may only be taken once for credit.

2. In order to pass this course and eventually the 70-646 exam, you MUST read the curriculum. Students are expected to attend ALL classes. The instructor must be notified of a legitimate excuse and in advance when possible. Discuss any makeup work immediately upon your return or it will not be accepted. Late work may be accepted late for a letter grade deduction. Two unexcused absences could cause you to be dropped from the class.

2. Students are expected to arrive for class on time. Students may enter the classroom after class has started, but should be careful not to disrupt class. Excessive tardiness should be avoided. Students who are tardy must see the instructor after class. Two tardies equals one absence.

3. Students suspected of cheating will receive a score of zero. If it is determined that work has been shared, all parties involved will receive no credit for that assignment or exam. There will be no make-up for the missed score. Suspects are guilty until proven innocent.

4. All students are expected to conduct themselves in a pleasant, civil, courteous, and sociable manner at all times in the course. Rudeness, bigotry, sarcasm, and/or obscene or abusive language will not be tolerated. Students displaying such behavior will be required to leave the course. Any student dismissed from a course for such behavior must seek the approval of the Vice chancellor for academics to reenter the course. Repeated objectionable behavior or disruption of the class will result in permanent dismissal. Faculty members are expected to dismiss students from their courses whose behavior is detrimental to good order and a positive learning environment.

XI. Learning Assessments: Grades will be assigned based on chapter tests, labs, objective exams, and assignments. The final exams will be comprehensive. Tests will have a time limit. Grades will be assigned as follows: Chapter Tests, Labs, and Lesson Assignments 80%; Objective Exams 15%, and FINAL 5%.

XII. Mastery Level:
Grades will be assigned according to the following scale:

A = 90 – 100%
B = 80 – 89%
C = 70 – 79%
D = 60 – 69%
F = Below 60%
Southern Arkansas University Tech
Basic PC Troubleshooting
EE2804
Course Syllabus

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I. Course Name and Number: EE2804 Basic PC Troubleshooting, 4 Credits
II. Meeting Schedule: T  R  10:30 am – 12:15 pm  TE213
III. Instructional Information:
Name: Robert Brown    Office: Building TE – Office 12
Phone: (870) 574-4581    Email: rbrown@sautech.edu
Office Hours: TBA

IV. Prerequisite: None
V. Course Description: This is the first of two (2) courses designed using classroom and hands-on instruction in installing, building, upgrading, repairing, configuring troubleshooting, optimizing, diagnosing and performing preventative maintenance of
basic personal computer hardware and software in preparation for A+ certification and base knowledge for an Enterprise Technician, IT Administrator, field service technician as well as PC technician. Prerequisite: None.

VI. Course Outcomes: Upon successful completion the student will achieve a minimum 70% proficiency on the following course outcomes:

1. Hardware
2. Troubleshooting, Repair & Maintenance
3. Operational Procedure

Outcome Objectives/Measures:

1. Hardware
   - Categorize storage devices and backup media
   - Explain motherboard components, types & features
   - Classify power supplies
   - Explain the purpose and characteristics of CPUs and their features
   - Explain cooling methods and devices
   - Compare and contrast memory types, characteristics & their purpose
   - Distinguish between the different display devices and their characteristics
   - Install and configure peripherals and input devices
   - Summarize the function and type of adapter cards
   - Install, configure, and optimize laptop components and features

2. Troubleshooting, Repair & Maintenance
   - Explain the troubleshooting theory
   - Explain and interpret common hardware and operating system symptoms and their causes
   - Determine the troubleshooting methods and tools for printers
   - Explain and interpret common laptop issues and determine the appropriate basic troubleshooting methods

3. Operational Procedure
   - Outline the purpose of appropriate safety and environmental procedures
   - Demonstrate the appropriate use of communication skills and professionalism in the workplace

VII. Textbook & Learning Materials:

TBA

VIII. Supplies:

a. 1” 3 ring Presentation Binder (see Instructor)
b. CD or DVD Rewritable Media or Flash Drive  
c. 2 different colored Highlighters

IX. Course Requirements & Policies:

1. Classes will consist of lecture, hands-on assignments and research  
2. Safety is first priority!  
3. No horseplay!  
4. The labs must be kept clean  
5. All electronic devices are to be turned off before leaving them  
6. Unexcused absence will result in a Zero for class attendance and any work missed  
7. Make-up work for excused absences will be scheduled on a case by case basis at the discretion of the instructor  
8. Dishonesty will not be tolerated  
9. Abuse of computer equipment and building facilities will not be tolerated  
10. Internet usage will be monitored  
11. All students are expected to conduct themselves in an adult manner (pleasant, civil, courteous and sociable) at all times in the classroom.  
12. Students displaying inappropriate behavior will be required to leave class.  
13. Repeated objectionable behavior is grounds for permanent dismissal.  
14. Office hours will be posted for additional instruction  
15. Faculty members are expected to dismiss students from their classroom whose behavior is detrimental to good order and a positive learning environment for the benefit of the other students.

X. Learning Assessments: Based on a 1500 Point System, students must obtain 1500 points minimum (70% or higher) to receive class credit.

1. Out of the 1500 point total of combined exams and Labs, Midterm and Final exam, and class participation, students must accumulate at least 1500 points to meet the minimum 70% to be awarded class credit  
2. Tests may be True/False, Multiple Choice, Matching, Fill in the Blank, Short Answer, Listing or essay format – in class open or closed book, no notes or notes, take home or any combination chosen by the instructor  
3. Students who have excused absences may arrange to makeup missed exams or quizzes as determined by the instructor. It is your responsibility to get the materials missed - otherwise the recorded zero will remain as your grade.

XI. Mastery Level:

A = 90 – 100%  
B = 80 – 89%  
C = 70 – 79%  
D = 60 – 69%  
F = Below 60%
XII. Office Policy:

I will do everything within my power to always be available during my posted office hours. I am easily available with a prior appointment by calling 574-4581 and ask to schedule a time that suits your convenience. At other times you are welcome to contact me by email at IteachIT@sbcglobal.net or rbrown@sautech.edu. Please feel free to talk to me about any issue relating to the course. Please ask if this is a good time and do not take it personally if I am busy at that moment. I will make time for you always and depending upon your circumstance, I can juggle my schedule for you. You and your education are very important to me as it should be to you. I am here to assist you so please do not hesitate to come by my office, call me, or email me.
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I. Course Name and Number: CS2094 A+ Practical Application (220-702), 4 Credits

II. Meeting Schedule: M W 10:30 am - 12:15 pm TE213

III. Instructional Information:

Name: Robert Brown  Office: Building TE – Office 1
Phone: (870) 574-4581  Email: rbrown@sautech.edu
Cell Phone: (870) 310-5770  Office Hours: TBA
IV. **Prerequisite:** This course, A+ Practical Application, is targeted for individuals who work or intend to work in a mobile or corporate technical environment with a high level of face-to-face client interaction. Job titles in some organizations, which are descriptive of the role of this individual, may be Enterprise Technician, IT Administrator, Field Service Technician, PC Technician, etc... Ideally, the CompTIA A+ 220-702 candidate has already passed the CompTIA A+ Essentials examination (220-701). Individuals in some non-technical roles such as student, sales personnel, or small business office managers may also find the validation of skills associated with the CompTIA A+ credential to be valuable. It is designed to measure a candidate’s knowledge as a prerequisite to A+ Certification. You can obtain this level of skill and knowledge by taking **CS2084 A+ Essentials. PREREQUISITE: CS2084**

V. **Course Description:**
Students will build and hone their skills and knowledge in becoming subject matter experts. Students will be challenged to industry standards in a body of knowledge that has been identified and accepted as the baseline for an entry level IT professional. This is the first exam, which measures necessary competencies of IT field and lab experience. This course is also the main course students must take to prepare for the CompTIA A+ Practical Application examination (220-702). In this course, you will build on your knowledge and professional experience of how to install, configure, upgrade, maintain, and troubleshoot personal computer systems, components, and peripherals; to connect computers to networks; and to provide service to clients with personal computer equipment service needs.

VI. **Course Outcomes:** Upon successful completion the student will achieve a minimum 70% proficiency on the following course outcomes:

   a. Hardware
   b. Operating Systems
   c. Network
   d. IT Security

VII. **Outcome Objectives/Measures:**

   i. Hardware
      1. Given a scenario and hands on labs, install, configure, and maintain personal computer components
      2. Given a scenario and hands on labs, detect problems, troubleshoot and repair/replace personal computer components
      3. Given a scenario and hands on labs, install, configure, detect problems, troubleshoot and repair/replace laptop components
      4. Given a scenario and hands on labs, detect and resolve common printer issues

   ii. Operating System
      1. Select the appropriate commands and options to troubleshoot and resolve problems
2. Differentiate between Windows Operating System directory structures
3. Given a scenario, select and use system utilities / tools and evaluate the results
4. Evaluate and resolve common issues

iii. Networking
1. Troubleshoot client-side connectivity issues using appropriate tools
2. Install and configure a small office home office (SOHO) network

iv. IT Security
1. Given a scenario, prevent, troubleshooting and remove viruses and malware
2. Implement security and troubleshooting common issues

VIII. Textbook & Learning Materials:

IX. Supplies: TBD

X. Course Requirements & Policies:
- Classes will consist of lecture, hands-on assignments and research
- Safety is first priority
- No horseplay
- The labs must be kept clean
- All electronic devices are to be turned off before leaving them
- Unexcused absence will result in a Zero for class attendance and any work missed
- Make-up work for excused absences will be scheduled on a case by case basis at the discretion of the instructor
- Dishonesty will not be tolerated
- Abuse of computer equipment and building facilities will not be tolerated
- Internet usage will be monitored
- All students are expected to conduct themselves in an adult manner (pleasant, civil, courteous, and sociable) at all times in the classroom
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- Office hours will be posted for additional instruction
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XI. Learning Assessments: Based on a 1500 Point System, students must obtain 1050 points minimum (70% or higher) to receive class credit
4. There will be several objective exams
5. Hands-On Lab
6. Student Participation
7. One Final
8. Out of the **1500 point total** of combined exams, Hands-On Lab, one Final exam, and student participation, students must accumulate at least **1050 points** to meet the minimum 70% to be awarded class credit
9. Tests may be True/False, Multiple Choice, Matching, Fill in the Blank, Short Answer, Listing or essay format – in class open or closed book, no notes or notes, take home or any combination chosen by the instructor
10. Students who have excused absences may arrange to makeup missed exams or quizzes as determined by the instructor. It is your responsibility to get the materials missed - otherwise the recorded zero will remain as your grade.

XII. **Mastery Level:**

<table>
<thead>
<tr>
<th>Grade</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>A</td>
<td>90 – 100%</td>
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</tr>
</tbody>
</table>

XIII. **Office Policy:**

I will do everything within my power to always be available during my posted office hours. As a faculty member with other teaching responsibilities who is trying to do research and be a good citizen, I am juggling many responsibilities. I am easily available with a prior appointment by calling 574-4581 and ask to schedule a time that suits your convenience. At other times, contact me by email at rbrown@sautech.edu. Please feel free to talk to me about any issue relating to the course. If by chance we should meet in the hall or on campus, I am sometimes harried with other commitments, please ask if this is a good time, and do not take it personally if I am busy at that moment. I will make time for you always and depending upon your circumstance, I can juggle my schedule for you. You and your education are very important to me, as it should be to you. I am here to assist you so please do not hesitate to come by my office, call me, email me, or if necessary call me at home.
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I. **Course Name and Number:** NT 2204-01 Introduction to Security, 4 Credits

II. **Meeting Schedule:** MW 12:45am – 2:30pm TE213

III. **Instructional Information:**
  
  Name: Robert Brown  
  Office: Building TE – Office 12  
  Phone: (870) 574-4581  
  Email: rbrown@sautech.edu  
  Office Hours: TBA

IV. **Prerequisite:** None

V. **Course Description:** This course has been designed using CompTIA Course approved materials in preparation for the CompTIA Security+ Exam which satisfies
one of Microsoft’s Security Specialization requirements. Students will learn General Security Concepts – access controls; authentication methods; risk of services and protocols; vulnerabilities of attacks and malicious code; social engineering; and auditing; Communication Security – recognize, understand and administer remote access technologies; email, Internet, directory security concepts; file transfer protocol and wireless technology concepts; Infrastructure Security – hardware and media security issues; security topologies; differentiate, conceptualize, implement and configure intrusion detection systems; and security baseline; Basic Cryptography – cryptographic algorithms and security concepts; PKI concepts, management and lifecycles; and Operational/Organizational Security – physical security, disaster recovery, business continuity, policies and procedures, privilege management, forensics, and risk identification and management. Prerequisite: NT 1114.

VI. Course Outcomes: Upon successful completion the student will achieve a minimum 70% proficiency on the following course outcomes:

4. Systems Security
5. Network Infrastructure
6. Access Control
7. Assessment and Audits
8. Cryptography
9. Organizational Security

Outcome Objectives/Measures:

1. Systems Security
   - Differentiate among various systems security threats
   - Explain the security risks pertaining to system hardware and peripherals.
   - Implement OS hardening practices and procedures to achieve workstation and server security.
   - Carry out the appropriate procedures to establish application security
   - Implement security applications

2. Network Infrastructure
   - Differentiate between the different ports & protocols, their respective threats and mitigation techniques.
   - Distinguish between network design elements and components
   - Determine the appropriate use of network security tools to facilitate network security
   - Apply the appropriate network tools to facilitate network security
   - Explain the vulnerabilities and mitigations associated with network devices
   - Explain the vulnerabilities and mitigations associated with various transmission media

3. Access Control
   - Identify and apply industry best practices for access control methods
Explain common access control models and the differences between each
Organize users and computers into appropriate security groups and roles while distinguishing between appropriate rights and privileges
Apply appropriate security controls to file and print resources
Compare and implement logical access control methods
Summarize the various authentication models and identify the components of each
Deploy various authentication models and identify the components of each
Explain the difference between identification and authentication
Explain and apply physical access security methods

4. Assessment and Audits
Conduct risk assessments and implement risk mitigation
Carry out vulnerability assessments using common tools
Within the realm of vulnerability assessments, explain the proper use of penetration testing verses vulnerability scanning
Use monitoring tools on systems and networks and detect security-related anomalies
Compare and contrast various types of monitoring methodologies
Execute proper logging procedures and evaluate the results
Conduct periodic audits of system security settings

5. Cryptography
Explain general cryptography concepts
Explain basic hashing concepts and map various algorithms to appropriate applications
Explain basic encryption concepts and map various algorithms to appropriate applications
Explain and implement protocols
Explain core concepts of public key cryptography
Implement PKI and certificate management

6. Organizational Security
Explain redundancy planning and its components
Implement disaster recovery procedures
Differentiate between and execute appropriate incident response procedures
Identify and explain applicable legislation and organizational policies
Explain the importance of environmental controls
Explain the concept of and how to reduce the risks of social engineering
VII. Textbook & Learning Materials:

TBA

VIII. Supplies:

TBA

IX. Course Requirements & Policies:

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25. Internet usage will be monitored
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X. TestOut LABSIM Policy:

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XI. Learning Assessments: Based on a 1500 Point System, students must obtain 1050 points minimum (70% or higher) to receive class credit

11. Out of the **1500 point total** of combined exams and Labs, Midterm and Final exam, and class participation, students must accumulate at least **1050 points** to meet the minimum 70% to be awarded class credit
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I. Course Name and Number: CS2084 A+ Essentials, 4 Credits

II. Meeting Schedule: MW 10:30 am – 12:15 pm TE213

III. Instructional Information:
Name: Robert Brown
Phone: (870) 574-4581
Office: Building TE – Office 1
Email: rbrown@sautech.edu
Office Hours: TBA
IV. **Prerequisite:** This course, A+ Essentials, is for the student with Hands-on experience or equivalent knowledge including installing, building, upgrading, repairing, configuring, troubleshooting, optimizing, diagnosing and performing preventative maintenance of basic personal computer hardware and software. It is designed to measure a candidate’s knowledge as a prerequisite to A+ Certification. You can obtain this level of skills and knowledge by taking any of the following; **MIS1003 Introduction to Computers, NT1014 Supporting Network Clients, NT1024 Supporting Network Servers and EE2804 Basic Troubleshooting (preferably).**

V. **Course Description:**

Students will build and hone their skills and knowledge in becoming subject matter experts. Students will be challenged to industry standards in a body of knowledge that has been identified and accepted as the baseline for an entry level IT professional. This is the first exam which measures necessary competencies of IT field and lab experience. This course is also the main course students must take to prepare for the CompTIA A+ Essentials examination. In this course, you will build on your knowledge and professional experience of how to install, configure, upgrade, maintain, and troubleshoot personal computer systems, components, and peripherals; to connect computers to networks; and to provide service to clients with personal computer equipment service needs.

VI. **Course Outcomes:** Upon successful completion the student will achieve a minimum 70% proficiency on the following course outcomes:

1. Hardware
2. Troubleshooting, Repair & Maintenance
3. Operating Systems & Software
4. Networking
5. Security
6. Operational Procedures

**Outcome Objectives/Measures:**

1. Hardware
   a. Categorize storage devices and backup media
   b. Explain motherboard components, types and features
   c. Classify power supplies types and characteristics
   d. Explain the purpose and characteristics of CPUs and their features
   e. Explain cooling methods and devices
   f. Compare and contrast memory types, characteristics and their purpose
   g. Distinguish between the different display devices and their characteristics
   h. Install and configure peripherals and input devices
   i. Summarize the function and types of adapter cards
   j. Install, configure and optimize laptop components and features
2. Troubleshooting, Repair & Maintenance
   a. explain the troubleshooting theory
   b. explain and interpret common hardware and operating system symptoms and their causes
   c. determine the troubleshooting methods and tools for printers
   d. explain and interpret common laptop issues and determine the appropriate basic troubleshooting method
   e. integrate common preventative maintenance techniques

3. Operating Systems & Software
   a. Compare and contrast the different Windows Operating Systems and their features
   b. demonstrate proper use of user interfaces
   c. Explain the process and steps to install and configure the Windows OS
   d. Explain the basics of boot sequences, methods and startup utilities

4. Networking
   a. Summarize the basics of networking fundamentals, including technologies, devices and protocols
   b. Categorize network cables and connectors and their implementations
   c. Compare and contrast the different network types

5. Security
   a. Explain the basic principles of security concepts and technologies
   b. Summarize the following security features

6. Operational Procedures
   a. Outline the purpose of appropriate safety and environmental procedures and given a scenario apply them
   b. Given a scenario, demonstrate the appropriate use of communication skills and professionalism in the workplace

VII. Textbook & Learning Materials:

   TBA

VIII. Supplies:

   TBA

IX. Course Requirements & Policies:

   31. Classes will consist of lecture, LAB Hands-On Assignments and research
   32. Safety is first priority!
   33. No horseplay!
   34. The labs must be kept clean
   35. All electronic devices are to be turned off before leaving them
   36. Unexcused absence will result in a Zero for class attendance and any work missed
37. Make-up work for excused absences will be scheduled on a case by case basis at the discretion of the instructor.
38. Dishonesty will not be tolerated – cheating or plagiarism will receive Zero’s.
39. Abuse of computer equipment and building facilities will not be tolerated.
40. Internet usage will be monitored.
41. All students are expected to conduct themselves in an adult manner (pleasant, civil, courteous, and sociable) at all times in the classroom.
42. Students displaying inappropriate behavior will be required to leave class.
43. Repeated objectionable behavior is grounds for permanent dismissal.
44. Office hours will be posted for additional instruction.
45. Faculty members are expected to dismiss students from their classroom whose behavior is detrimental to good order and a positive learning environment for the benefit of the other students.

X. **Test Out LABSIM Policy:**

This course uses a LabSim product where the course delivery is offered online. The labs are simulated on-line and quizzes and exams will be delivered online. The class will meet in the classroom and Internet access will be provided for the student’s course. The instructor will be available to offer assistance. A student may work ahead of the proposed schedule. A student may choose to work on the course outside of the assigned class time in lieu of or in addition to attending the class; providing satisfactory progress is being made in the course following the proposed schedule. Objective Exams need to be taken at the end of each chapter in a proctored environment. If taken in a non-proctored environment no credit will be given (0%). Objective Exams may only be taken once for credit.

XI. **Learning Assessments:** Based on a 1500 Point System, students must obtain 1050 points minimum (70% or higher) to receive class credit

1. Out of the 1500 point total of combined exams, FINAL Exam, daily participation, students must accumulate at least 1050 points to meet the minimum 70% to be awarded class credit.
2. Tests and quizzes may be True/False, Multiple Choice, Matching, Fill in the Blank, Short Answer, Listing or essay format – in class open or closed book, no notes or notes, take home or any combination chosen by the instructor.
3. Students who have excused absences may arrange to makeup missed exams or quizzes as determined by the instructor.

XII. **Mastery Level:**

- A = 90 – 100%
- B = 80 – 89%
- C = 70 – 79%
- D = 60 – 69%
- F = Below 60%
XIII. Office Policy:

I will do everything within my power to always be available during my posted office hours. As a faculty member with other teaching responsibilities who is trying to do research and be a good citizen, I am juggling many responsibilities. I am easily available with a prior appointment by calling 574-4581 and ask to schedule a time that suits your convenience (if I am available). At other times, you are welcome to contact me by email at rbrown@sautech.edu & ITeachIT@sbcglobal.net. Please feel free to talk to me about any issue relating to the course. If by chance we should meet in the hall or on campus, I am sometimes harried with other commitments, please ask if this is a good time and do not take it personally if I am busy at that moment. I will make time for you always and depending upon your circumstance I can juggle my schedule for you. You and your education are very important to me as it should be to you. I am here to assist you so please do not hesitate to come by my office, call me, email me or if necessary call me at home.
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I. Course Name and Number: CS2444-01 NETWORK+, 4 Credits

II. Meeting Schedule: TR 8:30 am - 10:15 am TE213

III. Instructional Information:

Name: Robert Brown  Office: Building TE – Office 12
Phone: (870) 574-4581  Email: rbrown@sautech.edu

Office Hours: TBA

IV. Prerequisite: NONE
V. **Course Description:** Knowing how to install, configure, and troubleshoot a computer network is a highly marketable and exciting skill. This course first introduces the fundamental building blocks that form a modern network, such as protocols, topologies, hardware, and network operating systems. It then provides in-depth coverage of the most important concepts in contemporary networking, such as TCP/IP, Ethernet, wireless transmission, and security. The course will prepare you to select the best network design, hardware, and software for your environment. You will also have the skills to build a network from scratch and maintain, upgrade, and troubleshoot an existing network. Finally, you will be well prepared to pass CompTIA’s (the Computing Technology Industry Association’s) Network+ certification exam. **Prerequisite:** NONE

VI. **Course Outcomes:** Upon successful completion the student will achieve a minimum 70% proficiency on the following course outcomes:

1. Network Technologies
2. Network Media and Topologies
3. Network Devices
4. Network Management
5. Network Tools
6. Network Security

**Outcome Objectives/Measures:**

1. Network Technologies
   a. Explain the function of common networking protocols
   b. Identify commonly used TDP and UDP default ports
   c. Identify address formats
   d. Evaluate

2. Network Media and Topologies
   a. Categorize standard cable types and their properties
   b. Identify common connector types
   c. Identify common physical network topologies
   d. Differentiate and implement appropriate wiring standards
   e. Categorize WAN technology types and properties
   f. Explain common logical network topologies and their characteristics
   g. Install components of wiring distribution

3. Network Devices
   a. Install, configure and differentiate between common network devices
   b. Identify the functions of specialized network devices
   c. Explain the advanced features of a switch
   d. Implement a basic wireless network

4. Network Management
   a. Explain the function of each layer of the OSI model
   b. Identify types of configuration management documentation
   c. Evaluate the network based on configuration management documentation
d. Conduct network monitoring to identify performance and connectivity issues

e. Explain different methods and rationales for network performance optimization

f. Implement network troubleshooting methodology

g. Troubleshoot common connectivity issues and select an appropriate solution

5. Network Tools

   a. Select the appropriate command line interface tool and interpret the output to verify functionality

   b. Explain the purpose of network scanners

   c. Utilize the appropriate hardware tools

6. Network Security

   a. Explain the function of hardware and software security devices

   b. Explain the common features of a firewall

   c. Explain the methods of network access security

   d. Explain the methods of network access

   e. Explain the issues that affect device security

   f. Identify common security threats and mitigation techniques


VIII. Supplies: Notebook – Required, Highlighters (red/pink & yellow) - Required

IX. Course Requirements & Policies:

   46. Classes will consist of lecture, hands-on assignments and research

   47. Safety is first priority!

   48. No horseplay!

   49. The labs must be kept clean

   50. All electronic devices are to be turned off before leaving them

   51. Unexcused absence will result in a Zero for class attendance and any work missed

   52. Make-up work for excused absences will be scheduled on a case by case basis at the discretion of the instructor

   53. Dishonesty will not be tolerated – cheating or plagiarism will receive Zero’s.

   54. Abuse of computer equipment and building facilities will not be tolerated

   55. Internet usage will be monitored

   56. All students are expected to conduct themselves in an adult manner (pleasant, civil, courteous, and sociable) at all times in the classroom.

   57. Students displaying inappropriate behavior will be required to leave class.

   58. Repeated objectionable behavior is grounds for permanent dismissal.

   59. Office hours will be posted for additional instruction

   60. Faculty members are expected to dismiss students from their classroom whose behavior is detrimental to good order and a positive learning environment for the benefit of the other students.
X. Learning Assessments: Based on a 1500 Point System, students must obtain 1050 points minimum (70% or higher) to receive class credit

14. Out of the **1500 point total** of combined exams, FINAL Exam, daily participation, students must accumulate at least **1050 points** to meet the minimum **70%** to be awarded class credit

15. Tests and quizzes may be True/False, Multiple Choice, Matching, Fill in the Blank, Short Answer, Listing or essay format – in class open or closed book, no notes or notes, take home or any combination chosen by the instructor

16. Students who have excused absences may arrange to makeup missed exams or quizzes as determined by the instructor

XI. Mastery Level:

- **A = 90 – 100%**
- **B = 80 – 89%**
- **C = 70 – 79%**
- **D = 60 – 69%**
- **F = Below 60%**

XII. Office Policy:

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I. Course Name and Number: CS2094 A+ Practical Application (220-702), 4 Credits

II. Meeting Schedule: M W 10:30 am - 12:15 pm TE213

III. Instructional Information:
Name: Robert Brown  Office: Building TE – Office 1
Phone: (870) 574-4581  Email: rbrown@sautech.edu
Cell Phone: (870) 310-5770  Office Hours: TBA
IV. **Prerequisite:** This course, A+ Practical Application, is targeted for individuals who work or intend to work in a mobile or corporate technical environment with a high level of face-to-face client interaction. Job titles in some organizations, which are descriptive of the role of this individual, may be Enterprise Technician, IT Administrator, Field Service Technician, PC Technician, etc. Ideally, the CompTIA A+ 220-702 candidate has already passed the CompTIA A+ Essentials examination (220-701). Individuals in some non-technical roles such as student, sales personnel, or small business office managers may also find the validation of skills associated with the CompTIA A+ credential to be valuable. It is designed to measure a candidate’s knowledge as a prerequisite to A+ Certification. You can obtain this level of skill and knowledge by taking **CS2084 A+ Essentials. PREREQUISITE: CS2084**

V. **Course Description:**
Students will build and hone their skills and knowledge in becoming subject matter experts. Students will be challenged to industry standards in a body of knowledge that has been identified and accepted as the baseline for an entry level IT professional. This is the first exam, which measures necessary competencies of IT field and lab experience. This course is also the main course students must take to prepare for the CompTIA A+ Practical Application examination (220-702). In this course, you will build on your knowledge and professional experience of how to install, configure, upgrade, maintain, and troubleshoot personal computer systems, components, and peripherals; to connect computers to networks; and to provide service to clients with personal computer equipment service needs.

VI. **Course Outcomes:** Upon successful completion the student will achieve a minimum 70% proficiency on the following course outcomes:

- e. Hardware
- f. Operating Systems
- g. Network
- h. IT Security

VII. **Outcome Objectives/Measures:**

i. Hardware
   1. Given a scenario and hands on labs, install, configure, and maintain personal computer components
   2. Given a scenario and hands on labs, detect problems, troubleshoot and repair/replace personal computer components
   3. Given a scenario and hands on labs, install, configure, detect problems, troubleshoot and repair/replace laptop components
   4. Given a scenario and hands on labs, detect and resolve common printer issues

ii. Operating System
   1. Select the appropriate commands and options to troubleshoot and resolve problems
2. Differentiate between Windows Operating System directory structures
3. Given a scenario, select and use system utilities / tools and evaluate the results
4. Evaluate and resolve common issues
   iii. Networking
       1. Troubleshoot client-side connectivity issues using appropriate tools
       2. Install and configure a small office home office (SOHO) network
   iv. IT Security
       1. Given a scenario, prevent, troubleshoot and remove viruses and malware
       2. Implement security and troubleshoot common issues

VIII. Textbook & Learning Materials:


IX. Supplies: TBD

X. Course Requirements & Policies:

- Classes will consist of lecture, hands-on assignments and research
- Safety is first priority
- No horseplay
- The labs must be kept clean
- All electronic devices are to be turned off before leaving them
- Unexcused absence will result in a Zero for class attendance and any work missed
- Make-up work for excused absences will be scheduled on a case by case basis at the discretion of the instructor
- Dishonesty will not be tolerated
- Abuse of computer equipment and building facilities will not be tolerated
- Internet usage will be monitored
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XI. Learning Assessments: Based on a 1500 Point System, students must obtain 1050 points minimum (70% or higher) to receive class credit
17. There will be several objective exams
18. Hands-On Lab
19. Student Participation
20. One Final
21. Out of the **1500 point total** of combined exams, Hands-On Lab, one Final exam, and student participation, students must accumulate at least **1050 points** to meet the minimum **70%** to be awarded class credit
22. Tests may be True/False, Multiple Choice, Matching, Fill in the Blank, Short Answer, Listing or essay format – in class open or closed book, no notes or notes, take home or any combination chosen by the instructor
23. Students who have excused absences may arrange to makeup missed exams or quizzes as determined by the instructor. It is your responsibility to get the materials missed - otherwise the recorded zero will remain as your grade.

**XII. Mastery Level:**

A = 90 – 100%
B = 80 – 89%
C = 70 – 79%
D = 60 – 69%
F = Below 60%

**XIII. Office Policy:**

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Southern Arkansas University Tech
Enterprise Security (SSCP)
CS2014
Course Syllabus

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I. Course Name and Number: CS2014 Enterprise Security (SSCP)  4 Credits

II. Meeting Schedule: T R 08:30am – 10:15am
   TE213

III. Instructional Information:
    Name: Robert Brown
    Office: Building TE – Office 12
    Phone: (870) 574-4581
    Email: rbrown@sautech.edu
    Cell Phone: Office Hours: TBA
IV. **Prerequisite:** NT2204

V. **Course Description:** Enterprise Security curricula strictly follows ISC2’s (Information Systems Security Certification Consortium, Inc.) official training curriculum. The ISC2 SSCP (System Security Certified Practitioner) certification validates the ability of security professionals such as Network Security Engineers, Security Systems Analysts, and Security Administrators to perform fundamental security tasks. This is also the perfect course for personnel in many other non-security disciplines that require an understanding of security but do not have information security as a primary part of their job description. This large and growing group includes information systems auditors; application programmers; system, network, and database administrators; business unit representatives, and systems analysts.

I. **Course Outcomes:** Upon successful completion the student will achieve a minimum 70% proficiency on the following course outcomes:

1. Access Control
2. Cryptography
3. Networks and Communications
4. Malicious Code Attacks
5. Analysis and Monitoring
6. Risk, Response, and Recovery
7. Operations and Administration

**Outcome Objectives/Measures:**

1. Access Control (51 Questions)
   - Access Control
   - Access Control Models
   - Authentication
   - Authentication Administration
   - Administration
2. Cryptography (78 questions)
   - Cryptography
   - Symmetric Cryptography
   - Asymmetric Cryptography
   - Signatures and Hashing
   - Public Key Infrastructure
   - Cryptographic Uses
   - Cryptographic Attacks
3. Networks and Communications (95 questions)
   - Networking
   - Local Area Networking
   - Wide Area Networking
II. Textbook & Learning Materials:

TBA

III. Supplies:

3 Ring 1” Binder
DVD-R, DVD-RW, CD-RW, CD-R, or Flash Drive
2 Different colored Highlighters

IV. Course Requirements & Policies:
61. Classes will consist of lecture, hands-on assignments and research
62. Safety is first priority!
63. No horseplay!
64. The labs must be kept clean
65. All electronic devices are to be turned off before leaving them
66. Unexcused absence will result in a Zero for class attendance and any work missed
67. Make-up work for excused absences will be scheduled on a case by case basis at
   the discretion of the instructor
68. Dishonesty will not be tolerated
69. Abuse of computer equipment and building facilities will not be tolerated
70. Internet usage will be monitored
71. All students are expected to conduct themselves in an adult manner (pleasant,
   civil, courteous, and sociable) at all times in the classroom.
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73. Repeated objectionable behavior is grounds for permanent dismissal.
74. Office hours will be posted for additional instruction
75. Faculty members are expected to dismiss students from their classroom whose
   behavior is detrimental to good order and a positive learning environment for the
   benefit of the other students.

V. Learning Assessments: Based on a 1500 Point System, students must obtain 1050
   points minimum (70% or higher) to receive class credit

24. Out of the 1500 point total of combined Exams, Labs one Final Exam, and
   student class participation/Homework, students must accumulate at least 1050
   points to meet the minimum 70% to be awarded class credit
25. Tests may be True/False, Multiple Choice, Matching, Fill in the Blank, Short
   Answer, Listing or essay format – in class open or closed book, no notes or
   notes, take home or any combination chosen by the instructor
26. Students who have excused absences may arrange to makeup missed exams or
   quizzes as determined by the instructor.
27. Students with unexcused absences will receive a ZERO for quizzes,
   homework, exams, and student participation.
28. It is your responsibility to get the materials missed either from other students
   or by appointment.

VI. Mastery Level:

   A = 90 – 100%
   B = 80 – 89%
   C = 70 – 79%
   D = 60 – 69%
   F = Below 60%
VII. Office Policy:

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I. Course Name and Number:

CS2183 Business Continuity and Disaster Recovery 4 Credits

II. Meeting Schedule:

Internet

III. Instructional Information:

Name: Robert Brown Office: Building TE – Office 12
IV. Course Description:

This course will provide instruction that provides students with a comprehensive treatment of contingency planning, including the components of Incident Response, Disaster Recovery, Business Continuity, and Crisis Management. It offers thorough treatment of the planning process for each area and provides students with a focus on the managerial issues associated with each area. Included in this instruction is information security that identifies management problems associated with business model issues and practices that has important economic consequences that management is accountable.

V. Prerequisite: NONE

VI. Course Outcomes:

Upon successful completion the student will achieve a minimum 70% proficiency on the following course outcomes:

1. Introduction and Overview of Contingency Planning
2. Organizational Readiness & Business Impact Analysis
3. Incident Response
4. Contingency Strategies for Disaster Recovery
5. Disaster Recovery
6. Business Continuity
7. Crisis Management

VII. Outcome Objectives/Measures:

1. Introduction and Overview of Contingency Planning
   a. Understands the concept of Contingency Planning
   b. Able to define the constituent components of Business Impact Analysis
   c. Comprehends:
      • Incident Responses Planning
      • Disaster Recovery Planning
      • Business Continuity Planning
      • Crisis Management
2. Organizational Readiness & Business Impact Analysis
   a. Understands the need for organization readiness and Business Impact Analysis as a basis for all contingency planning and operations
b. Understands how the BIA is used to support Incident Response, Disaster Recovery, Business Continuity, and Crisis Management

3. Incident Response

a. Identifies mechanisms used to detect incidences

b. Knows the phases associated with the preparation and organization of incident response operations and the tasks the organization can implement to prevent recurring incidents.

c. Identifies the elements needed for a communications plan and what it can prevent, detect, and react to operational disruptions.

d. Distinguishes response activities that must be taken to conclude a specific response action.

4. Contingency Strategies for Disaster Recovery

a. Becomes familiar with the strategies that serve both disaster recovery and business continuity efforts

b. Comprehends data backup and recovery strategies used in a disaster recovery and business continuity efforts that support respective plans

5. Disaster Recovery

a. Knows the selection process in establishing a Disaster Recovery Team

b. Understands the individual and team responsibility during a disaster

c. Successfully identifies required actions of each team member during key phases of a disaster, including preparation, response, resumption, recovery, and restoration

6. Business Continuity

a. Comprehends the need for business continuity and the steps involved to prepare for business continuity operations

b. Knows how to develop a Business Continuity Plan and it's critical components

c. Understands the planning and efforts involved in a successful business continuity effort and the impact of business continuity on organizational workflow

7. Crisis Management
a. Understands the requirements associated with handling crises- incidents or disasters that impact human safety and life.

VIII. Textbook & Learning Materials:

Principles of Incident Response and Disaster Recovery (ISBN 9781418836634)

IX. Supplies:

PC to which you can install software, MS Word or Notepad, a hard drive, flash/pen drive, or CD-Rs on which to save work and Internet access

X. Course Requirements & Policies:

a. It is strongly recommended that students follow the course calendar. Adherence to this schedule insures successful completion of the course work within the allowed time. Students must show reasonable progress toward completing the required coursework throughout the semester. Progress is considered to be unsatisfactory when the student has fallen more than two weeks behind the deadlines listed on the course calendar. Students not adhering to this policy may be dropped from the course.

b. Assignments will be graded, once submitted by you, within 24-48 hours. I try to grade submitted work at least once a day Monday thru Thursday and at least once on the weekend (Friday thru Sunday).

c. Students must remain in contact with the instructor throughout the course. Satisfactory contact can be accomplished through weekly submissions of assignments, quizzes, exams, and e-mails.

d. Students must complete all work individually. If it is determined that work has been shared, all parties involved will receive no credit for that assignment or exam. There will be no make-up for the missed score. If cheating is suspected the student may be asked to test in a proctored location.

e. Incomplete grades are not granted for Internet courses. However, students may request an extension in the event of extraordinary medical or verifiable circumstances. These extensions are for two weeks beyond the end of the semester. Extensions must be requested prior to deadlines.

f. All students are expected to conduct themselves in a pleasant, civil, courteous, and sociable manner at all times in the course. Rudeness, bigotry, sarcasm, and/or obscene or abusive language will not be tolerated. Students displaying such behavior will be required to leave the course. Any student dismissed from a course for such behavior must seek the approval of the Vice chancellor for academics to reenter the course. Repeated objectionable behavior or disruption of the class will result in permanent dismissal. Faculty members are expected to
dismiss students from their courses whose behavior is detrimental to good order and a positive learning environment.

g. Students must contact the instructor to report any technical or personal issues that may prevent reasonable and satisfactory progress in the course.

h. Students should pay close attention to the Learning Guides for each lesson. The learning guides provide specific details regarding assignments and other activities for each lesson.

i. Students must submit all assignments for each unit before Blackboard will release the exam for that unit.

j. The comprehensive final exam for this course must be taken at an approved proctored test site. Failure to do so will result in a "0" for the final exam. Students may NOT use class notes OR textbooks during the final exam. Electronic, printed, or handwritten copies of course exams may not be used during the final exam. Visit the college website at www.sautech.edu/docs/proc_sites.pdf for a list of the approved sites or refer to the announcement section of your My Blackboard.

XI. Deadlines:

a. You must show progress in this course **Weekly**.

b. Check the calendar for course deadlines. These are FINAL deadlines. Work submitted after these deadlines will be given a grade of zero.

c. Proctored final exam must per the schedule

d. If you feel you will not be able to meet the deadlines (won't be able to complete the course), you can drop the course by date set by SAU Tech drop policy, and receive a grade of "W" rather than an "F."

XII. Learning Assessments:

**Based on a 1500 Point System, students must obtain 1050 points minimum (70% or higher) to receive class credit**

1. Out of the **1500 point total** of combined exams, FINAL Exam, daily participation, students must accumulate at least **1050 points** to meet the minimum **70%** to be awarded class credit

2. Students who have excused absences may arrange to makeup missed exams or quizzes as determined by the instructor.
XIII. Mastery Level:

A = 90 – 100%
B = 80 – 89%
C = 70 – 79%
D = 60 – 69%
F = Below 60%

XIV. Office Policy:

I will do everything within my power to always be available during my posted office hours. I am easily available with a prior appointment by calling (870) 574-4581 and ask to schedule a time that suits your convenience. At other times you are welcome to contact me by email at IteachIT@sbcglobal.net or rbrown@sautech.edu. Please feel free to talk to me about any issue relating to the course. Please ask if this is a good time and do not take it personally if I am busy at that moment. I will make time for you always and depending upon your circumstance I can juggle my schedule for you. You and your education are very important to me as it should be to you. I am here to assist you so please do not hesitate to come by my office, call me, email me or if really necessary call me at home.
SAU Tech Mission Statement
Southern Arkansas University Tech is a comprehensive, two-year, public college committed to providing quality educational programs to meet the needs of its service area. Within its resources, the college accomplishes its mission through technical career programs, transfer curricula, continuing education, developmental education, and administrative, student, and community service.

SAU Tech Assessment Philosophy
Southern Arkansas University Tech has developed a program to assess the learning outcomes of its students to assure that the College is achieving its mission. The Assessment Program is designed to measure the level of skills and competencies gained by students at the program and course levels as well as within the General Education curriculum for all Associate Degree students. Assessment activities are performed in a number of ways including placement exams prior to enrollment, program level goals and objectives, and classroom assessment techniques. Faculty identifies desired student learning outcomes on the program and classroom level and then assesses through various methodologies how well those outcomes have been achieved. The college uses the data obtained from assessment measures to improve student academic achievement and the instructional methodologies delivered by the institution.

SAU Tech ADA Policy
SAU Tech recognizes that a disability may preclude a student from demonstrating required course competencies or from completing course requirements necessary for an A.A., A.S., or A.A.S. degree or certificate programs in the same manner expected of nondisabled students. In compliance with Section 504 of the Rehabilitation Act of 1973, and the Americans with Disabilities Act of 1990, qualified students with disabilities may request that appropriate course accommodations be considered. Students are encouraged to meet with Disability Services to develop a plan for their academic accommodations. Requests for accommodations must be made within two (2) weeks of the start of each semester.

I. Course Name and Number: NT 2464 Server+, 4 Credits

II. Meeting Schedule: M W 12:45-2:30 PM TE213

III. Instructional Information:
Name: Robert Brown
Phone: (870) 574-4581
Cell Phone: Email: rbrown@sautech.edu
Office: Building TE – Office 1
Office Hours: TBA

IV. Prerequisite: None
V. Course Description:

This course has been designed using CompTIA Course approved materials in preparation for the CompTIA Server+ (2009 Edition) Certification Exam. Students will obtain knowledge and skills required to build, maintain, troubleshoot and support server hardware and software technologies. The successful candidate will be able to identify environmental issues; understand and comply with disaster recovery and physical / software security procedures; be familiar with industry terminology and concepts; understand server roles / specializations and interaction within the overall computing environment. Prerequisite: EE2904 & NT2204.

VI. Course Outcomes:  Upon successful completion the student will achieve a minimum 70% proficiency on the following course outcomes:

10. System Hardware
11. Software
12. Storage
13. IT Environment
14. Disaster Recovery
15. Troubleshooting

Outcome Objectives/Measures:

1. System Hardware
   - Differentiate between system board types, features, components and their purposes.
   - Deploy different chassis types and the appropriate components
   - Differentiate between memory features / types and given a scenario select appropriate memory
   - Explain the importance of a Hardware Compatibility List (HCL)
   - Differentiate between processor features / types and given a scenario select the appropriate processor
   - Given a scenario, install appropriate expansion cards into a server while considering fault tolerance.
   - Install, update, and configure appropriate firmware.

2. Software
   - Install, deploy, configure and update NOS (Windows / *nix).
   - Explain NOS security software and its features.
   - Given a scenario, implement and administer NOS management features based on procedures and guidelines
   - Explain different server roles, their purpose and how they interact
   - Summarize server virtualization concepts, features and considerations
   - Describe common elements of networking essentials

3. Storage
   - Describe RAID technologies and its features and benefits
   - Given a scenario, select the appropriate RAID level
4. IT Environment
   - Install and configure different internal storage technologies
   - Summarize the purpose of external storage technologies

   - Write, utilize and maintain documentation, diagrams and procedures
   - Given a scenario, explain the purpose of the following industry best practices
     - Determine an appropriate physical environment for the server location
   - Implement and configure different methods of server access
   - Given a scenario, classify physical security measures for a server location

5. Disaster Recovery
   - Compare and contrast backup and restoration methodologies, media types and concepts
   - Given a scenario, compare and contrast the different types of replication methods
   - Explain data retention and destruction concepts

6. Troubleshooting
   - Explain troubleshooting theory and methodologies
   - Given a scenario, effectively troubleshoot hardware problems, selecting the appropriate tools and methods
   - Given a scenario, effectively troubleshoot software problems, selecting the appropriate tools and methods
   - Given a scenario, effectively diagnose network problems, selecting the appropriate tools and methods
   - Given a scenario, effectively troubleshoot storage problems, selecting the appropriate tools and methods

VII. Textbook & Learning Materials:

   TBA

VIII. Supplies:

   a. 1” 3 ring Presentation Binder (see Instructor)
   b. CD or DVD Rewritable Media or Flash Drive
   c. 2 different colored Highlighters

IX. Course Requirements & Policies:

   76. Classes will consist of lecture, hands-on assignments and research
   77. Safety is first priority!
   78. No horseplay!
   79. The labs must be kept clean
   80. All electronic devices are to be turned off before leaving them
   81. Unexcused absence will result in a Zero for class attendance and any work missed
82. Make-up work for excused absences will be scheduled on a case by case basis at the discretion of the instructor.
83. All course deliverables submitted for grade will be typed using Times New Roman, 12 point. Paper must have 1” margins top, bottom, left and right. All sentences must be comprised of proper sentence structure, correct spelling, word usage, grammar, and syntax. A sentence is a complete intellectual thought.
84. Dishonesty will not be tolerated.
85. Abuse of computer equipment and building facilities will not be tolerated.
86. Internet usage will be monitored.
87. All students are expected to conduct themselves in an adult manner (pleasant, civil, courteous, and sociable) at all times in the classroom.
88. Students displaying inappropriate behavior will be required to leave class.
89. Repeated objectionable behavior is grounds for permanent dismissal.
90. Office hours will be posted for additional instruction.
91. Faculty members are expected to dismiss students from their classroom whose behavior is detrimental to good order and a positive learning environment for the benefit of the other students.

X. Learning Assessments: Based on a 1500 Point System, students must obtain 1050 points minimum (70% or higher) to receive class credit.

29. Out of the 1500 point total of combined exams and Labs, Midterm and Final exam, and class participation, students must accumulate at least 1050 points to meet the minimum 70% to be awarded class credit.
30. Tests may be True/False, Multiple Choice, Matching, Fill in the Blank, Short Answer, Listing or essay format – in class open or closed book, no notes or notes, take home or any combination chosen by the instructor.
31. Students who have excused absences may arrange to makeup missed exams or quizzes as determined by the instructor. It is your responsibility to get the materials missed - otherwise the recorded zero will remain as your grade.

XI. Mastery Level:

A = 90 – 100%
B = 80 – 89%
C = 70 – 79%
D = 60 – 69%
F = Below 60%

XII. Office Policy:

I will do everything within my power to be available during my posted office hours. As a faculty member with other teaching responsibilities, I am juggling many responsibilities. An appointment may be scheduled by calling 574-4581. You are welcome to contact me by email at rbrown@sautech.edu or ITeachIT@sbcglobal.net. Please feel free to talk to me about any issue relating to the course. If by chance we
should meet in the hall or on campus, I am sometimes harried with other commitments, please do not take it personally if I am busy at that moment. I will make time for you and depending upon your circumstance, I can juggle my schedule for you. You and your education are very important to me, as it should be to you. I am here to assist you so please do not hesitate to come by my office, call me, email me, or if necessary call me at home
APPENDIX C
Computer Information Technology Full-Time Faculty Vita

Jill McCollum

Experience

2000-present SAU Tech Camden, AR
Computer Information Technology Instructor
- Wired three classrooms for network and implemented the use of virtual PCs into courses
- Instructed computer technology, networking, and applications courses
- Conducted Business & Industry Training classes
- Developed and taught Internet courses
- Served as PBL Advisor, Cisco Networking Academy Main Contact, and on committees for E-Link (ARE-ON), Internet Curriculum Review, Assessment, and Degree Program Development

1996-1999 Harmony Grove High School Camden, AR
Business Teacher
- Technology Coordinator 1996-1997
- Updated and maintained computer lab
- Implemented new programs into the curriculum
- Lead FBLA chapter to receive highest honors
- Served on Personnel Policy, Homecoming, Parent & Community Involvement and pageant committees; co-Yearbook sponsor; and as Jr. class sponsor and Vocational Department Secretary

1990-1996 Fairview Junior High Camden, AR
Camden Career Center
Business and Marketing Teacher
- Taught Business, Computer Technology, and Marketing classes
- Coordinated cooperative work experiences
- Jr. High FBLA Advisor and DECA Advisor

Education

1991-1995 University of Central Arkansas Conway, AR
- Master of Science in Education-Business Education

1986-1990 Southern Arkansas University Magnolia, AR
- Bachelor of Science in Education-Business Education

Technology Certificates

Cisco Certified Academy Instructor, CCNP and CCNA; Certified Ethical Hacker, Security +, Certified Cyber Security Education Consortium Instructor, ADE Educator’s License; Microsoft Office Master Certified Instructor
Robert Brown, CW3(R), USA

Experience
2005-present                      SAU Tech                                           Camden, AR
Computer Information Technology Instructor
- Responsible for instruction toward IT AAS degree, and A+, Network+, Security+, and ISSP industry certifications, Certificates of Proficiency and Technical Certificates
- Designed, and installed CAT6A STP (10G ready) network infrastructure
- Designed and installed HDMI connectivity throughout the computer lab
- Developed and Instructed IT, Repair, networking, and security courses
- Developed and taught Internet courses
- Developed IT Department Computer Technician AAS Degree program responsible for increasing student body and retention by 32%
- Designed, installed, and instructed an advanced Computer Lab supporting 6 servers and 42 PC’s and 5-segmented networks.
- Served as Faculty Senate Chair for two consecutive years
- Served as AQIP #8 Team leader

91-2000                     Chief Warrant Officer (CW3/W-3)     World Wide
Military Employment
- Systems Security Manager - Developed, implemented and managed IS Security Policies and Program resulting in 0 incidences
- HP & SCO Unix, and Windows System Administrator - Provided consultative and analytical resources - reduced daily human and system errors to 0%
- Oracle Database Administrator - Increased South West Asia reporting accuracy from 14% to 100% to the National Inventory Control Point (NICP)
- Systems Analyst - Developed Software Applications and Processes, Security plans and procedures
- Theater Level Logistics Officer - Maintained real-time asset visibility of approximately 347,000 tons, and +17,860 line items daily with 0% loss and 0% incident (actually gained total asset visibility)
- Ammunition Technician - Reduced annual ammunition expenditures by 33% and turn-ins to 0%, and overall readiness from 42% to 89% in 12 months
- Nuclear Weapons Technician, Nuclear Weapons Maintenance Operations Officer – Theater Level commodity reporting efficiency from 4-6 days to 4-8 hours

Awards
Bronze Star, 3 Army Commendations, 4 Army Achievements, 3 Good Conduct Medals, South West Asia Medal, Saudi Arabia Liberation & Kuwait Liberation Medals,

Civilian Education
08-09   Colorado Technical University – Masters of Science in Management –Information Systems Security GPA 4.0 Colorado Springs, CO

CERTIFICATES: Computer Systems Security Foundations; Software Information Assurance; Security Management; Systems Security Certification and Accreditation; Network Security; Project Planning; Project Management (PM) Process In Organizations; Execution, and Closure, Schedule and Cost Control Techniques; Contracting and **Procurement in PM**
06&09 Intense School - Security+, Network+, and A+ Certification - Austin, TX and Dulles, VA

CompTIA CERTIFICATIONS: Security+, Network+, A+

07 New Horizons – MCP, MCDST, MCSA-Security Instructor Led Training – Shreveport, LA


03-05 Colorado Technical University – Bachelor of Science – Business Administration – Information Technology GPA 3.96 Colorado Springs, CO


99-00 Learning Tree International - Microsoft Windows NT Certified Professional Reston, VA


98-99 PRC International- UNIX System Administrator Reston, VA

CERTIFICATES: HP & SCO UNIX System Administration

79-00 Department of Defense Service Related College World Wide

Military Education


Technical Certificates

CompTIA Security+, CompTIA Network+, CompTIA A+
## APPENDIX D
Computer Information Technology Declared Majors and Graduates, 2010-2012

<table>
<thead>
<tr>
<th>Academic Year</th>
<th>Degree/Credential</th>
<th>Declared Majors</th>
<th>Graduates</th>
</tr>
</thead>
<tbody>
<tr>
<td>2009-2010</td>
<td>AAS</td>
<td>68</td>
<td>8</td>
</tr>
<tr>
<td>2009-2010</td>
<td>TC</td>
<td>8</td>
<td>1</td>
</tr>
<tr>
<td>2009-2010</td>
<td>CP Certified IT</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>2009-2010</td>
<td>CP Comp Engineer</td>
<td>*</td>
<td>*</td>
</tr>
<tr>
<td>2009-2010</td>
<td>CP Cisco</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>2009-2010</td>
<td>CP A+</td>
<td>6</td>
<td>4</td>
</tr>
<tr>
<td>2010-2011</td>
<td>AAS</td>
<td>71</td>
<td>2</td>
</tr>
<tr>
<td>2010-2011</td>
<td>TC</td>
<td>16</td>
<td>6</td>
</tr>
<tr>
<td>2010-2011</td>
<td>CP Certified IT</td>
<td>4</td>
<td>0</td>
</tr>
<tr>
<td>2010-2011</td>
<td>CP Comp Engineer</td>
<td>*</td>
<td>1</td>
</tr>
<tr>
<td>2010-2011</td>
<td>CP Cisco</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>2010-2011</td>
<td>CP A+</td>
<td>6</td>
<td>3</td>
</tr>
<tr>
<td>2011-2012</td>
<td>AAS</td>
<td>61</td>
<td>10</td>
</tr>
<tr>
<td>2011-2012</td>
<td>TC</td>
<td>10</td>
<td>9</td>
</tr>
<tr>
<td>2011-2012</td>
<td>CP Certified IT</td>
<td>4</td>
<td>0</td>
</tr>
<tr>
<td>2011-2012</td>
<td>CP Comp Engineer</td>
<td>*</td>
<td>4</td>
</tr>
<tr>
<td>2011-2012</td>
<td>CP Cisco</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>2011-2012</td>
<td>CP A+</td>
<td>2</td>
<td>1</td>
</tr>
</tbody>
</table>

Percentage of graduates based on declared majors by academic year:

- **2009-2010**: 20.69%
- **2010-2011**: 13.86%
- **2011-2012**: 31.58%

Overall percentage of graduates based on declared majors: **21.21%**

*Certificate of Proficiency in Computer Engineering was developed for AY2010-2011. The CP is a Concurrent Enrollment CP for high school students who do not “declare” for the credential.*
## APPENDIX E

Graduate Employment Survey
Computer Information Technology Graduates
2010-2012
(Responding

<table>
<thead>
<tr>
<th>Credential</th>
<th>Graduation Year</th>
<th>Employer</th>
<th>Required Credential</th>
<th>Using Skills</th>
<th>Salary</th>
</tr>
</thead>
<tbody>
<tr>
<td>TC/CP</td>
<td>2010</td>
<td>Wal-Mart</td>
<td>No</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>CP</td>
<td>2011</td>
<td>Mill Creek Fordyce</td>
<td>No</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>AAS/TC</td>
<td>2012</td>
<td>Murphy Oil Corp.</td>
<td>No</td>
<td>Yes</td>
<td>$39,500.00</td>
</tr>
<tr>
<td>AAS/TC</td>
<td>2012</td>
<td>Holiday Inn</td>
<td>No</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>AAS</td>
<td>2010</td>
<td>Applied Control</td>
<td>Yes</td>
<td>Yes</td>
<td>$31,000.00</td>
</tr>
<tr>
<td>AAS</td>
<td>2010</td>
<td>State Highway Dept.</td>
<td>No</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>AAS/TC</td>
<td>2012</td>
<td>Caddo Parrish Schools</td>
<td>No</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>AAS</td>
<td>2010</td>
<td>Leader Communications</td>
<td>No</td>
<td>Yes</td>
<td>$21 hr.</td>
</tr>
<tr>
<td>AAS/TC</td>
<td>2012</td>
<td>Arkansas State Parks</td>
<td>No</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>AAS</td>
<td>2011</td>
<td>MI-SWACO</td>
<td>Privileged</td>
<td>Yes</td>
<td>$80,000.00</td>
</tr>
<tr>
<td>CP</td>
<td>2009</td>
<td>MCR Technical Service</td>
<td>No</td>
<td>Yes</td>
<td>$35,000.00</td>
</tr>
<tr>
<td>CP</td>
<td>2010</td>
<td>Coca-Cola</td>
<td>No</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>TC</td>
<td>2011</td>
<td>Aerojet</td>
<td>Yes</td>
<td>Yes</td>
<td></td>
</tr>
</tbody>
</table>
EXTERNAL PROGRAM REVIEWS
I. Review of Program Goals, Objectives and Activities
   A. Are the intended educational (learning) goals for the program appropriate and assessed?

   The educational goals for the program appear to be appropriate encompassing a strong foundation within the technology field. Students have the opportunity to develop skills that may lead the way to successfully passing a number of industry standard certification exams such as the A+, Network+, CCNA and more. These third-party certifications may help in showing the competencies of the student to potential employers.

   Assessment is covered in section VII of the self-study. The program and its courses are assessed via the students learning goals and outcomes. Assessment encompasses such areas as communication literacy, computer literacy, global awareness, critical thinking, and research skills. Based on the program goals and outcomes of the networking track listed within the self-study, the student competencies have a 4.75 percent increase in the 2011-2012 academic year as compared to the 2010-2011 academic year. A slight decrease is noted within the technician track indicating a 1.5 percent decrease from the previous academic year. However, it should be noted that the competency rates for both tracks are in the 80 – 90 percentile. This appears to indicate a strong skill-set among students.

   B. How are the faculty and students accomplishing the program’s goals and objectives?

   The faculty within the program have a long list of professional development activities listed within section IV of the self-study report. This dedication to maintaining and improving ones skills helps to keep the program fresh and up-to-date. This should help to keep the courses offered within the program relevant to today’s industry demands.

   Students are accomplishing the program’s goals and objectives by meeting the criteria laid out by the institution. This is apparent through the students’ assessments as indicated in the previous section. However, it should be noted that Appendix D does indicate a rather low retention rate for the AAS degree. Although the 2011-2012 academic year indicates a measurable increase in retention from previous years, this should be an area of concern.
C. How is the program meeting market/industry demands and/or preparing students for advanced study?

As indicated in section I part (3) of the self-study, a number of sources predict a large number of IT jobs that are needed within the technology field. Network administration, desktop support, Windows administration are high on the list. Security professionals are climbing rapidly to the top of the list. The Network & System Administrator, Computer Technician, and Core courses offered within the Computer Information Technology program readily adhere to the demands of industry.

Section VII part (4) of the self-study indicates that some of the programs graduates have gone on to other institutions for more advanced studies. Although tracking of the program graduates has been sparse, the institution appears to be moving in the right direction by their membership purchase into the National Student Clearinghouse.

D. Is there sufficient student demand for the program?

The number of students declaring this program as their major has fluctuated slightly over the past four or five years. However, 58 students have currently declared this program as their major. This indicates a sufficient student demand for this particular program.

E. Do course enrollments and program graduation/completion rates justify the required resources?

The assessment results indicate strong student competencies. Student demand in the program is at a sufficient level. However, the retention rate in this program is on the low end. Many programs within the IT field have retention issues. This institution does appear to be addressing some of those issues. The 2011-2012 academic year shows a 17.72% increase in retention from the previous academic year. With an increasing number of job opportunities becoming available for individuals within the IT field, perhaps it is safe to assume that the retention level of this program will continue to rise as well. It does appear that the resources are justified at this time.

II. Review of Program Curriculum

A. Is the program curriculum appropriate to meet current and future market/industry needs and/or to prepare students for advanced study?

The program curriculum does appear to meet both current and future industry needs. As indicated, Chief Information Officers are currently looking for Network Administrators, Desktop Support personnel, and Windows Administrators. Future indications predict more growth within these areas and IT security. This program addresses those needs.
B. Are institutional policies and procedures appropriate to keep the program curriculum current to meet industry standards?

The institution employs faculty with the correct credentials to teach the program courses. The institution also evaluates the faculty members in a sufficient manner. A program advisory committee made up of IT professionals within the local area is in place to help lead the institution along the appropriate path – although, there is no mention as to how often the institution consults with the advisory committee. The program is kept up-to-date with the latest technology, software, and equipment that can be purchased on a limited budget. The institution appears to heavily promote professional development as well within this program, as is noted within part IV section (2) of the self-study.

C. Are program exit requirements appropriate?

Although a capstone course is not required for this program, it does not appear to be a viable concern. The courses appear to build upon one another – expanding the students’ knowledgebase on specific topics. This is noted by the progressive Cisco Networking courses, support courses, and troubleshooting courses. The assessment material within the courses/program gives the appearance that the students are acquiring the necessary skills to be successful in the IT field.

D. Does the program contain evidence of good breadth/focus and currency, including consistency with good practice?

The student demand for the program sits at an average of 64.5 students per academic year over the past four academic years. The 2012-2013 year is noted to be 58 students. This is not far from average.

The program incorporates courses that are focused towards industry standards, along with current and future needs. The courses are being taught by two faculty members that are holding industry certifications and are aggressively working on their professional development. The program also has the latest technology, software, and equipment that is affordable by the university. This provides the evidence needed.

E. Are students introduced to experiences within the workplace and introduced to professionals in the field?

There is no indication within the self-study report that any of this is taking place within the program. This appears to be an area that should be addressed.

F. Does the program promote and support interdisciplinary initiatives?

The self-study report does not truly show that the program promotes or supports interdisciplinary initiatives. The program does provide the Introduction to Computers
course for most transfer and career/technical education degree programs, but that appears to be the extent of the programs support.

G. Does the program provide respect and understanding for cultural diversity as evidenced in the curriculum, in program activities, in assignment of program responsibly and duties; in honors, awards and scholarship recognition; in recruitment?

Very little evidence is available with this self-study report. Unless overlooked, there is no mention of recognition listed within the report. However, it does appear that within their recruitment efforts all potential students are treated the same. Students are exposed to lab environments and the faculty explains the methods and expectations of the program. Students can also be involved in activities such as Cisco NetRiders Competition and PBL’s competition. Each of the course syllabi includes conduct rules and policies that indicate treating each other with respect and other things.

III. Review of Academic Support
A. Does the program provide appropriate quality and quantity of academic advising and mentoring of students?

Academic advising is not specifically covered in this report. The report does indicate that the college’s retention efforts include an early alert system, mentoring, academic advising, and tutoring. It also mentions that the program faculty use lab time for tutoring students.

B. Does the program provide for retention of qualified students from term to term and support student progress toward and achievement of graduation?

The report does indicate that the college’s retention efforts include an early alert system, mentoring, academic advising, and tutoring. It also mentions that the program faculty use lab time for tutoring students. Planned program improvements are in place. One improvement being planned is to develop a comprehensive student tracking system for monitoring student development that ensures students retention and success. However, no other material is listed.

IV. Review of Program Faculty
A. Does program faculty have appropriate academic credentials and/or professional licensure/certification?

Yes, the two faculty member’s credentials are appropriate. Both members possess a Master’s degree and have a background within the IT field. Both also possess technology certifications that coincide with the courses they teach. Jill McCollum also possesses the ADE Educator’s License.

B. Are the faculty orientation and faculty evaluation processes appropriate?
Faculty orientation and evaluation is covered in detail within the report. The orientation process is laid out within section III part (3) of the report. The orientation process is appropriate. Faculty evaluation is also covered here, as well as in section VII part (3) of the report. Faculty are evaluated by students, the Vice Chancellor for Academics, and by a self-study evaluation they complete as well. This is appropriate for faculty evaluation.

C. *Is the faculty workload in keeping with best practices?*

The university indicates that a full-time faculty member load is 15 credit hours, and that faculty members are allowed to carry one course overload. Additional overloads must be approved by the Vice Chancellor for Academics and the Chancellor. Jill McCollum appears to be staying within policy. Robert Brown, however, is teaching 22 credit hours with 2 overload courses for the past two semesters. If this is commonplace, perhaps it would be better for the university to hire an adjunct instructor for one of Mr. Brown’s overload courses.

V. **Review of Program Resources**

A. *Is there an appropriate level of institutional support for program operation?*

The institution provides an annual $20,000 budget for the program and professional development funds for faculty to retain industry-standard certifications. The faculty senate provides funding for travel and professional development opportunities of their choosing for faculty. A student worker budget of $2,000 is also allotted, as well as some additional monies from the academic program improvement budget of $60,000 for special needs.

B. *Are faculty, library, professional development and other program resources sufficient?*

The number of full-time faculty for this program is sufficient. However, the institution may want to consider hiring an adjunct if Mr. Brown’s schedule continues to require him to teach two overload courses. Both faculty members appear to utilize professional development funds very well from the looks of their previous training. The library is not allotted monies based on programs. They simply purchase based on instructor recommendations. The Computer Information Technology program for the previous three years totaled $999.00. This appears to be adequate for an IT program. The IT community utilizes the Internet for much of its information due to the frequency of change that occurs in the field. All of these appear to be efficient for such a program.

VI. **Review of Program Effectiveness**

A. *Indicate areas of program strength.*
Program strengths lie in the credentials of the faculty members, such as their Master’s degrees and industry certifications. Other strengths include the institutional resources allocated towards the program, the program keeping new and up-to-date equipment in place for the students, the faculty’s willingness to seek out professional development, and a highly skilled and diversified advisory committee.

B. **Indicate the program areas in need of improvement within the next 12 months; and over the next 2-5 years.**

The report suggests that industry certification exam fees are an area of concern for students. Certification exams are sometimes required for employment within the industry, but many businesses view them as a “better” choice when two identical applicants are seeking the same single position. These exams can be important, but they should not be heavily relied upon.

Another improvement area is providing job placement services for program graduates. The institution indicates that hiring a placement coordinator could help in this area, and this individual could help in tracking students after graduation. This is an area that should be addressed as quickly as possible.

Retention rates are low within the program. The institution should focus their attention on these retention rates over the next few years.

Distance education is growing at many institutions at a very high rate. The institution may want to consider moving a course or two towards distance delivery within the next few years to accommodate the diverse student body.

A process needs to be developed to collect student/alumni/employer satisfaction information. It is great that the faculty keeps up with who they can, but it may be better if, perhaps, surveys were distributed out to students/alumni/employers for satisfaction information. If not surveys, perhaps some other form of collection process could be utilized.

C. **Indicate areas for program development based on market/industry demands that have not been identified by the institution.**

It appears that the report has covered about all of the areas industry is demanding. The faculty members are doing a good job of utilizing the program development resources offered to them.

**VII. Review of Instruction by Distance Technology (if program courses offered by distance)**

A. **Are the program distance technology courses offered/delivered in accordance with best practices?**

Currently, the program courses are not offered through Distance Technology.
B. *Does the institution have appropriate procedures in place to assure the security of personal information?*

Perhaps due to the fact that distance technology is not offered via this program, this information is not available within this report.

C. *Are technology support services appropriate for students enrolled in and faculty teaching courses/programs utilizing technology?*

Perhaps due to the fact that distance technology is not offered via this program, this information is not available within this report.

D. *Are policies for student/faculty ratio, and faculty course load in accordance with best practices?*

For in-class courses, not distance technology, policies are in place for student/faculty ratio as indicated in the report.

E. *Are policies on intellectual property in accordance with best practices?*

Perhaps due to the fact that distance technology is not offered via this program, this information is not available within this report.

**VIII. Review of Program Research and Service**

A. *Are the intended research and creative outcomes for each program appropriate, assessed and results utilized?*

Students are subjected to communication literacy, computer literacy, global awareness, critical thinking, and research skills. The program provides the necessary competencies, skills, and knowledge to meet the programs expectation. Students have the ability to focus on different tracks within the IT field – such as networking, computer technician, and system administrators.

The report does not go into much detail concerning assessment. It does indicate that assessment is done, but it does not indicate how the information is utilized.

B. *Are the intended outreach/service/entrepreneurial outcomes for each program’s initiatives appropriate assessed and results utilized?*

There is insufficient data within the report to give a truly conclusive answer to this question. The assessment process is a bit vague, and no information is given as to how the results of assessment are utilized.

**IX. Local Reviewer Comments**
A. How is the program meeting market/industry demands and/or preparing students for advanced study?

The program is offering courses that are viable within the local industry. Networking, computer technician, security, and system administration courses are areas within the IT field that many industry leaders are currently seeking qualified applicants to fill their employment needs. Although the institution has little information concerning students moving on to advanced studies, it should be noted that they do have some that are successfully enrolled in other programs.

B. What program modifications are needed?

Better documentation as to the role of their Advisory Committee and their recommendations. Better tracking of students after graduation is needed. Mentoring and tutoring is mentioned within the self-study report; however, there is little to no information listed concerning advising. Perhaps advising is an area the institution should look to for better retention rates.

X. Report Summary

A. Include reviewer comments on the overall need for program graduates/completers in the local area, region and/or nation over the next 5 years.

Each of the emphasis areas available through the Computer Information Technology program house specific material needed within the local area, the region, and the nation. As the report indicates, predictions from IT professionals and the United States Bureau of Labor Statistics predict that the jobs in these emphasis areas are growing fairly quickly. Graduates/completers from this program should benefit from the material taught for several years to come.

B. Include reviewer comments on overall program quality, state program review process, etc.

It appears that the overall quality of the program is good. The faculty are highly qualified, the advisory committee is very diversified and skilled, the institution provides appropriate resources towards the program, and a sufficient number of students enroll in the program each year. The institutions policy on orientation and evaluation of faculty helps to support the overall quality of the program.

The review process is a great way to have an unbiased individual review the state of the program. Not only does it help the institution and the state, but it also shows the reviewer to processes involved in keeping a program such as this going.
Academic Program Review for SAU Tech
Computer Information Technology Program
External Reviewers Report
Reviewer:
Mary McWilliams
Adjunct Faculty, Computer Management Systems
Northeast Texas Community College

IV. Review of Program Goals, Objectives and Activities

F. Are the intended educational (learning) goals for the program appropriate and assessed?

Discussion on specific educational goals is specific, but no assessment criteria are provided.

Goals presented are:

i. Greater employment potential
ii. Opportunity to develop skills needed to obtain a job in computer technology
iii. Offer appropriate variety of technical skill sets to meet employment needs
iv. Provides foundation for obtaining variety of professional certifications

These goals are program appropriate, but there are no measurable goals or yearly targets provided. It is difficult to assess if a goal is being achieved when it is not being measured. My recommendation is to assess each of these goals using appropriate metrics and targets.

G. How are the faculty and students accomplishing the program’s goals and objectives?

Student assessment results indicate the Networking track has improved 81% to 86%, and that the Technician track is slightly down from 96% to 94.5%. The Graduate Employment Survey indicates that only slightly more than 50% of graduates are actually using the skills learned in the degree program on their current jobs.

Aside from measuring student outcomes, and the Graduate Employment Survey no other student/faculty success measures are included in the Self Study. There appears to be a gap between internal competency measures and end student success using skills learned on their jobs. I would suggest that the industry-based program advisory board might be a perfect team to look into this issue. It is unclear what role this board performs in relationship to the computer technology program at SAU Tech, and this would certainly be a worthwhile endeavor for this team.

H. How is the program meeting market/industry demands and/or preparing students for advanced study?

The career demographic data shows that your program should be meeting market and industry demands. It is difficult to tell from the small amount of transfer data collected, if students are pursuing advanced study. Continued use of the National
Student Clearinghouse to determine trends is needed. This combined with trend data from the Graduate Employee Survey should help to more accurately answer this question. An ideal metric would be to compare the graduate numbers with those answering “yes” on your survey, or those continuing on to earn a more advanced degree. I would look for these numbers to trend upward.

I. Is there sufficient student demand for the program?

There appears to be sufficient student demand for the Computer Information Technology degree program. Provided demographic data indicates future need for these types of degree programs, particularly in your two areas of concentration.

It would be useful to look at your enrollments based on the provided demographic data to determine if minority groups are well represented in your enrollments as compared with your local area demographics.

J. Do course enrollments and program graduation/completion rates justify the required resources?

Since both professors have overload courses each semester, it appears that course enrollments are above your current resource level. However, when one compares declared majors with graduates, there is a fairly high retention issue. Your student competencies are very high, which indicates students are successfully completing each class. If students are succeeding in each class, then something else is causing them to leave your program. The reasons for this need to be identified and actions taken to increase retention based on this analysis.

Perhaps using one or two adjuncts to teach the overload classes, would free up your full-time faculty members to be able to spend more one-on-one time with each declared major student.

V. Review of Program Curriculum

H. Is the program curriculum appropriate to meet current and future market/industry needs and/or to prepare students for advanced study?

The labor statistics indicate that network administration, database management, desktop support, and Windows administration are all predicted to be fast growing career opportunities. The current curriculum is appropriate to provide students with the needed skills to perform in these jobs.

There is not enough data to document student success after graduation, either on the job successes or advanced study successes. Current use of the National Student Clearinghouse, and formalizing your Graduate Employment Survey should be valuable tools to further answer this question. I recommend continuing with both of these initiatives.

I. Are institutional policies and procedures appropriate to keep the program curriculum current to meet industry standards?

The impressive list of professional development activities over the past two years for both professors helps to assure the program is current and that both of the professors are interested in keeping current with their skills. In addition, input from the
industry-based program advisory board in this area will help to assure keeping your program current.

J. Are program exit requirements appropriate?

The defined curriculum paths, and degree and certificate requirements are clearly stated, and transition nicely one to the next. There is no capstone class offered. Considering the results from your informal Graduate Employment Survey, a class of this type to help students make the transition from classroom to career might be useful for your students. Perhaps combining this course with some type of internship program would help students become better prepared for their future jobs, and might even result in obtaining an appropriate job.

K. Does the program contain evidence of good breath/focus and currency, including consistency with good practice?

The program contains courses that are focused towards industry standards, which is evidenced by the list of professional certifications that many of your courses are targeted towards helping students earn.

The use of an advisory board, coupled with a formal course and curriculum development process is evidence of best practices from other colleges.

L. Are students introduced to experiences within the workplace and introduced to professionals in the field?

I could not find this discussed anywhere in your self-study report. Each individual course syllabus contains activities such as hands-on work, troubleshooting, planning activities, configuring labs, filtering, analyzing, case studies, and installations that help to simulate real world workplace experiences.

Inviting some professionals in the field to class to discuss a particular topic and to be available for questions would add to your already well-designed classes. This might also help to better prepare students for their future careers in computer information technology.

M. Does the program promote and support interdisciplinary initiatives?

You have at least two classes - Technical Math and Technical Writing that cross disciplinary boundaries. You should always be on the lookout for other areas where this makes sense- perhaps technical speaking.

The Introduction to Computers class is available for other degree programs and transfer credits.

N. Does the program provide respect and understanding for cultural diversity as evidenced in the curriculum, in program activities, in assignment of program responsibly and duties; in honors, awards and scholarship recognition; in recruitment?

This subject is not discussed in the Self-Study review document. It is important to attract minority students into our technical programs. Many students from rural areas do not have family that supports this type of career. We, as a nation, fall short in this area. I suggest looking at your local area demographics, comparing this with
the mix of students declaring computer information technology as their major, and taking action as appropriate for large differences.

VI. Review of Academic Support

C. Does the program provide appropriate quality and quantity of academic advising and mentoring of students?

The Self-Study document does list early alert, mentoring, academic advising, and tutoring as methods used to help retention. No detailed information is provided on how these are accomplished. Considering that retention is an issue, you might want to place emphasis on your student tracking system improvement suggested near the end of your report.

In addition, using an adjunct to reduce the work load for your full-time professors would provide them with more one-on-one time with their students.

D. Does the program provide for retention of qualified students from term to term and support student progress toward and achievement of graduation?

The data indicate that there is a retention issue, even though the success metrics indicate that your students are completing classes successfully. Attention is needed in this area.

IV. Review of Program Faculty

a. Do program faculty have appropriate academic credentials and/or professional licensure/certification?

The two faculty members have the required credentials to teach in this area, both having masters degrees. They also have an impressive list of certifications, and seem dedicated to professional development – as is evidenced by a lengthy list of conferences and classes.

b. Are the faculty orientation and faculty evaluation processes appropriate?

The faculty evaluation process appears solid, with student evaluations, faculty observations, and annual vice chancellor evaluations of faculty based on student evaluations, self-evaluations, assessment data, student success data, and professional development included. This is consistent with best practices for faculty evaluation at most schools.

C. Is the faculty workload in keeping with best practices?

Two full-time faculty members is appropriate for the current enrollments. A best practice in this area is typically 15-16 credit hours taught by each faculty member. The college policy states that a full load at SAU Tech is 15 credit hours. Both faculty members appear to be routinely teaching 1-2 overload courses. This might add to the retention issue. The use of an adjunct would help in this area. No additional full time faculty is needed at this time.

V. Review of Program Resources

C. Is there an appropriate level of institutional support for program operation?
The funding provided to faculty to earn and maintain their technical certifications is excellent.

D. Are faculty, library, professional development and other program resources sufficient?

As mentioned before, using an adjunct is something that should be considered to augment your faculty resources. The current professional development activities are impressive and appear to be appropriately funded.

Technology changes rapidly, which makes traditional library funding fairly low. However, the library could include reference materials for students that are online – including you tube and other video sources. This new generation appreciates a varied media, and video is one way to achieve this. Recommendations could come from the professors in this area, and from the textbook publishers.

VI. Review of Program Effectiveness

A. Indicate areas of program strength.

The areas of strength include:

- The processes used to keep the computer information technology program current
- The industry-based program advisory board
- The faculty’s educational credentials, and their diverse set of professional certifications
- The willingness of both the college and the faculty to attend a wide variety of conferences and classes, and the funding for these efforts
- The funding to keep classrooms and labs current
- The Technical Math and Technical Writing courses that cross disciplinary boundaries.

B. Indicate the program areas in need of improvement within the next 12 months; and over the next 2-5 years.

Areas for improvement include:

The addition of a class that helps students earn jobs in the chosen careers. Perhaps an internship program might be effective in this area.

Start to offer distance learning classes for some of your classes. The Introduction to Computers class might be a good one to start offering. Our newest generation is used to this technology and delivery media, and you should be making it available as an alternative for them in the near future.

Determine measurable goals and collect data on these goals. Improve your data collection and analysis techniques; particularly for inputs from industry and graduates.
Use of an adjunct professor would reduce the course overload for the two full-time professors. This would also free up these two professors to spend more one-on-one time with students to help increase retention and completions.

C. Indicate areas for program development based on market/industry demands that have not been identified by the institution.

I think the idea of grant funding for certification exam fees is a good idea. Many large companies look to these independent certifications when hiring. However, more attention to your local area needs based on advisory board input is also needed. It was unclear how the advisory board is used in your curriculum design process. Increased involvement might also increase local area hiring.

VII. Review of Instruction by Distance Technology (if program courses offered by distance)

A. Are the program distance technology courses offered/delivered in accordance with best practices?

Currently, the Computer Technology Program does not use distance technology, with the exception of some online assignments and exams within individual face-to-face classes.

Considering the way that this delivery method is growing in most colleges, I recommend that you consider offering many of your courses in this way. Computer literacy should not be an issue for your target students. This would be a way to increase your enrollments.

B. Does the institution have appropriate procedures in place to assure the security of personal information?

Currently, the Computer Technology Program does not use distance technology, with the exception of some online assignments and exams within individual face-to-face classes.

C. Are technology support services appropriate for students enrolled in and faculty teaching courses/programs utilizing technology?

Currently, the Computer Technology Program does not use distance technology, with the exception of some online assignments and exams within individual face-to-face classes.
D. Are policies for student/faculty ratio, and faculty course load in accordance with best practices?

Currently, the Computer Technology Program does not use distance technology, with the exception of some online assignments and exams within individual face-to-face classes.

E. Are policies on intellectual property in accordance with best practices?

Currently, the Computer Technology Program does not use distance technology, with the exception of some online assignments and exams within individual face-to-face classes.

VIII. Review of Program Research and Service

A. Are the intended research and creative outcomes for each program appropriate, assessed and results utilized?

The program provides hands-on learning that includes troubleshooting, planning activities, configuring labs, filtering, analyzing, case studies, and installations. All of these contribute to student program outcomes. The success measures demonstrate the effective mastering of these skills.

B. Are the intended outreach/service/entrepreneurial outcomes for each program’s initiatives appropriate assessed and results utilized?

This topic was not covered in the Self-Study report. Improvements in community outreach might be improved, since it is now based on an informal instructor contact program.

IX. Local Reviewer Comments

C. How is the program meeting market/industry demands and/or preparing students for advanced study?

The local reviewer pointed out faculty and funding as two key strengths. The advisory board was also cited as strength. It was difficult to determine the impact of the advisory board, since little information was provided in the Self-Study regarding how their inputs are used.

D. What program modifications are needed?

The local reviewer pointed out the need for job placement services, retention rate improvement, distance education courses, and better survey methods to determine student and graduate satisfaction. I agree with all of these recommendations.
X. Report Summary

C. Include reviewer comments on the overall need for program graduates/completers in the local area, region and/or nation over the next 5 years.

*It appears from the demographic data that you presented, that this degree program will be needed for at least the next five years. I feel that it is also appropriate nationwide, which might be another reason to expand your online training efforts.*

D. Include reviewer comments on overall program quality, state program review process, etc.

*I am impressed with your overall program quality, both the curriculum content and quality. Data was not included on student evaluations, so it is difficult to comment too much on instructor quality from the students’ perspectives. However, the student outcomes measure well above 80% mastering of course skills and knowledge. This is impressive. The willingness of the faculty to keep current is also an indication of the quality of instruction and course design at SAU Tech.*
INSTITUTIONAL RESPONSE TO PROGRAM REVIEWERS
Academic Program Review for SAU Tech
Computer Information Technology Program
Institutional Response to Reviews

Southern Arkansas University Tech is pleased with the findings of the local area expert reviewer and the out-of-state expert reviewer for the academic program self-study of the Computer Information Technology program.

The College concurs with the two primary areas of concern voiced by the reviewers regarding the retention rate in the program and the tracking of graduates into employment or for transfer to another institution for data purposes.

The Office of Academics has requested data from Institutional Research to begin the process of further review of the program’s retention rates to determine possible causes and responses. Academics will work closely with the CIT faculty to develop strategies and an improvement plan to improve retention in the program. The college also has an active Retention Committee that seeks to improve retention in all college programs.

SAU Tech has instituted several processes for improving the tracking of graduates into employment. The Office of Academics is responsible for contacting students and employers as part of the federal Gainful Employment Disclosure requirements. Graduates are contacted six and twelve months after graduation. Data on graduate employment will improve as this process moves forward.

In addition, the college has become an institutional member of National Student Clearinghouse. The clearinghouse tracks transfer students nation-wide among clearinghouse members. The college is already obtaining valuable data on transfer students as a result of this membership.

Two other concerns were expressed by the external review in the form of recommendations. The first, to increase the use of adjunct faculty to prevent full-time faculty from carrying overloads, will be taken under consideration within college policies. Currently the college allows faculty to carry one overload course and faculty have first choice of available courses before adjuncts are sought. The college attempts to avoid assigning a second overload course to faculty, however; when adjuncts are not available, the faculty may carry a second overload.

The second recommendation from the external reviewer was to begin offering distance education courses in the CIT program. CIT faculty have developed hybrid courses over the last few years but have been reluctant to develop fully on-line courses due to the intense, hands-on, laboratory-based curriculum and content of the program. While there is interest in continuing to develop hybrid courses in which the lecture portion of a course is delivered by distance, the faculty are hesitant to move into full delivery of skills-based networking and computer technician coursework, particularly for second year curriculum.

SAU Tech is pleased with the overall review of the program by the local and external reviewer, as well as the state of the program as revealed by the college’s internal self-study.
Program Review

Institutional Self-Study
General Technologies

*Welding (CP, TC)
*Programmable Logic Controllers (CP)
*General Technology (AAS General)
*Engineering Technology (CP, TC, AAS Emphasis)
*Industrial Maintenance Technology (TC, AAS Emphasis)

Southern Arkansas University Tech
2013-2014
Overview

The Arkansas Higher Education Coordinating Board (AHECB) Existing Program Review Policy adopted in October 2008 requires the review of all academic programs every seven to ten years. A major component of the policy is an internal review (self-study) by institutions and an external review by consultants of programs. The institution’s self-study, consultants’ written evaluation, and the institution’s response to the consultants’ findings will be submitted to the Arkansas Department of Higher Education.

This self-study is a program review of the following academic programs:

- Associate of Applied Science Degree in General Technology
  * General Degree
  * Engineering Technology Emphasis
  * Industrial Maintenance Emphasis
- Technical Certificate in Industrial Maintenance
- Technical Certificate in Engineering Technology
- Technical Certificate in Welding
- Certificate of Proficiency in Engineering Technology
- Certificate of Proficiency in Welding
- Certificate of Proficiency in Programmable Logic Controllers (PLC)

I. Goals, Objectives and Activities

1. Describe specific educational goals, objectives and activities of the program.

   The General Technology degree program is designed to allow the student maximum flexibility in designing a career and technical educational program that meets specific career-related objectives. Goals of the program are to provide a strong foundation in general education, including problem-solving skills, computer use and functioning as a productive member of society, while giving the student the opportunity to select those courses most closely aligned to his/her personal career goals. The general program may be customized to allow students up to 45 semester credit hours of electives to meet the students’ specific career goals.

   Also designed as a cross-disciplinary program, General Technology allows the student two emphasis areas to choose from in engineering technology or industrial maintenance technology to meet specific career goals.

   The Industrial Maintenance concentration prepares students for careers in large manufacturing companies as multicraft, industrial machinery maintenance, millwrights, and repair technicians. The concentration integrates electrical and mechanical elements, including print
reading, computers, machine shop practices, fluid power applications, mechanical power
transmission, preventive maintenance, industrial electricity, motors, robotics and motion
controls, and programmable logic controllers (PLCs). In addition, courses place emphasis on
safety, teamwork, communications skills and efficient work practices.

The Engineering Technology concentration offers students a broad spectrum of knowledge
and skills related to mechanical-engineering component and system design. Areas of emphasis
include materials, manufacturing processes, applied mechanics, electrical fundamentals, and
computer integrated manufacturing, numerical control, PLC, and planning. In addition,
courses place emphasis on safety, teamwork, communications skills and efficient work
practices.

Goals and objectives of the welding program include hands on training in SMAW, GMAW,
GTAW, oxy-acetylene and plasma cutting processes. Electrical safety and circuit training with
hands on training, building projects incorporate learned skills and operation of various types
of equipment (Powered Industrial Truck, JLG AWP and Genie Scizorlift) to achieve
Certificates of Training, OSHA Outreach Training to accomplish the requirements for an
OSHA card, and NCCER training for the Core requirements.

The Programmable Logic Controllers (PLC) certificate program is a course of study designed
to train students in the skills necessary to program and troubleshoot PLCS used in automation.
Students learn how to control high-speed factory automation equipment and manufacturing
processes, electrical switchgear, industrial robots, motors, pumps, and valves using PLCS.

2. Explain how the program serves the general education program and other disciplinary
   programs on the campus, if applicable.

The General Technology program does not provide any general education courses or other
disciplinary coursework for other programs on campus.

3. Document market demand and/or state/industry need for careers stemming from the
   program.

Market demand is high for the Industrial Maintenance program from local and regional
employers. Weyerhaeuser, Georgia Pacific, Lockheed Martin, Owens Corning, Deltic Timber,
West Fraser Corporation, and Clean Harbors have all sought recent program graduates for
employment. According to the U.S. Department of labor the median pay for industrial
maintenance technicians is $48,360 or $23.25 per hour. This is attractive to students that want
a steady job with good growth potential. The number of jobs available in the United States in
2010 was approximately 36,500 with an expected 19% increase through 2020. Locally, the
program is unable to fill all requests for qualified graduates. From 2010-2020 the expected
growth rate is around 14% for skilled labor and 19% for Maintenance.

According to a recent Bureau of Labor Statistics report employment of mechanical engineers
is projected to grow 5 percent from 2012 to 2022, slower than the average for most
occupations and job prospects may be best for those who stay abreast of the most recent advances in technology. The program is a result of requests from local employers, particularly those in Highland Industrial Park, to develop “home-grown” mid-level engineers and managers. Industry was heavily involved in the curricular design of the program in 2012-2013 as part of the DOL PACE grant activities. The first program graduates received their diplomas in May 2014.

The market demand for welders is very high. Meetings with the Magnolia Economic Development Corporation indicate a strong need from industry for the advanced welding training program. It is found that this is not just a local condition. According to the US Bureau of Labor and Statistics, “skilled welders with up-to-date training should have good job opportunities.” That governmental prediction rings true considering the excellent placement record of graduates in the report that follows.

4. Document student demand for the program.

Student program demand has remained steady over the last four academic years:

<table>
<thead>
<tr>
<th>Academic Year</th>
<th>Indus. Main. Majors</th>
<th>Eng Tech Majors</th>
<th>Welding Majors</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010-2011</td>
<td>65</td>
<td>7</td>
<td>0</td>
</tr>
<tr>
<td>2011-2012</td>
<td>55</td>
<td>10</td>
<td>15</td>
</tr>
<tr>
<td>2012-2013</td>
<td>64</td>
<td>19</td>
<td>15</td>
</tr>
<tr>
<td>2013-2014</td>
<td>65</td>
<td>20</td>
<td>23</td>
</tr>
<tr>
<td></td>
<td>249</td>
<td>56</td>
<td>53</td>
</tr>
</tbody>
</table>

SAU Tech recruiters report that student interest and demand for the general technology program among high school students in the college’s service area remains high. It is the largest academic program in enrollment for the college. The Welding Academy has grown to include an evening section and the popularity and reputation of the program is increasing. The Engineering Technology program has seen steady increase in demand.

II. Curriculum

1. Describe how program content parallels current thinking/trends in the field/trade (best practices, advisory committee recommendations, etc.).

Advisory councils are in place for the industrial maintenance, engineering, and welding programs to facilitate curricular oversight made up of area employers. The councils meet once per year on campus to review the program areas. At the most council meetings in 2013, the program faculty were instructed to leave the current curriculum in place as it was meeting and exceeding current industry demands.

Courses taught in the program directly map toward current industry-standard certification(s) and are integrated into the framework of the program curriculum. After taking assigned courses students should have sufficient skills and knowledge to pass one or more corresponding industry standardized exam(s) that will earn them certification in addition to their AAS degree.
### Industrial Maintenance:
- NCCER Core 1
- NCCER Core 2
- OSHA Certification
- PIT Powered Industrial Truck
- Scissor Lift
- AWP Arial Platform
- Millwright Level I

### Engineering Technology:
- CERT Training

### Welding Technology:
- NCCER Welding
- American Welding Society

2. **Provide an outline for each program curriculum, including the sequence of courses.**

The sequence of courses include the associate of applied science degree, technical certificates, and certificates of proficiency showing program curriculum and sequence of courses are located in **Appendix A** of this self-study.

3. **State the degree requirements, including general education requirements, institutional, college or school requirements, and major requirements.**

Degree, general education, college and major requirements are indicated on the degree plan which is located in **Appendix A** of this self-study.

4. **Indicate the semester/year the major/program courses were last offered. Exclude general education courses.**

#### Core Courses:
- MD-1403 Basic Blueprint Reading  
  Spring 2014
- EE-2603 Industrial Safety  
  Fall 2013
- EM-2924 PLC I  
  Fall 2013

#### Industrial Maintenance Emphasis Courses:
- EE-1003 Intro to Basic Electricity  
  Spring 2014
- EE-1033 Basic Machine Tools  
  Fall 2013
- EE-1303 Basic Welding  
  Spring 2014
- MD-1123 Mechanical Devices (NCCER Core 1)  
  Spring 2014
- MD-1323 Intermediate Welding  
  Spring 2014
- MD-2703 Advanced Industrial Safety  
  Spring 2014
MD-1052 Preventative Maintenance      Fall 2013
MD-1313 Advanced Welding      Spring 2014
CE-2401 Internship      Spring 2014
EM-2213 Industrial Electricity      Spring 2014
MD-2403 Fluidics      Spring 2014
MD-2633 Maintenance Management (NCCER Core 2)   Spring 2014

Engineering Technology Courses:
EN-1003 Intro to Engineering      Fall 2013
EE-1323 DC/AC Analysis      Fall 2013
EN-1023 Engineering Concepts I      Spring 2014
MD-1003 Computer Integrated Manufacturing I (CIM I)  Spring 2014
MD-2523 Computer Numerical Control (CNC)  Spring 2014
MD-2714 Computer Integrated Manufacturing II (CIM II)  Fall 2013
MD-1603 CAD/CAM  Spring 2014
EM-2963 PLC for Engineering  Spring 2014
MO-1013 Principles of Planning  Spring 2014
EN-2023 Engineering Concepts II  Fall 2014

Welding Courses:
WA-1005 Welding Processes  Fall 2013
WA-1015 Structural Welding  Fall 2013
WA-1025 Pipe Welding I  Fall 2013
WA-2005 Pipe Welding II  Spring 2014
WA-2015 Hi Freq TIG  Spring 2014
WA-2025 Capstone  Spring 2014

5. **Provide syllabi for discipline-specific courses and departmental objectives for each course.**

   Course syllabi are attached in Appendix B of this self-study.

6. **Outline the process for the introduction of new courses, including all internal curriculum review processes and the findings.**

   Faculty makes new course recommendations with justifications to the Vice chancellor for academics. Recommendations for new courses may also be made by the program advisory committee through the faculty. Course revisions or additions to degree or certificates require additional approval of the college curriculum committee. Changes to degree of more than 8 credit hours require notification to the Arkansas Department of Higher Education. One new course will added to the industrial maintenance emphasis for Fall 2014. MD-1003 Millwright Level I (NCCER) will be added to replace MD-2703 Advanced Industrial Safety at the recommendation of local industry at a SWACCC TAACCCT grant employer summit. MD-2603 Industrial Safety will be revised to incorporate some of the advanced safety curriculum.

7. **List courses in the degree program currently offered by distance delivery.**
The 15 hours of general education coursework is offered via distance on-line delivery. No other coursework is offered via distance delivery. However, the following courses are offered as hybrid courses (up to 75% of coursework on-line):

- EE-1003 Basic Electricity
- MD-1103 Mechanical Devices
- MD-2403 Fluidics
- MD-2633 Maintenance Management

8. **Describe the instructor-to-student and student-to-student interaction for distance courses (prerequisite courses, lab requirements, examination procedures-online/proctored, and instructor response to student assignments).**

The college administers its on-line course offerings through the Center for Web-Based Learning and provides synchronous and asynchronous educational learning platforms for students and resources to faculty. Students who enroll in online courses for the first time complete the Learning Strategies course designed to help them be successful in the distance learning environment. The Department of Information Services provides technical support for online courses and ensures class content, enrollments, and maintains all accounts as well as informational transfer of rosters and grades into the college’s POISE system.

### III. Program Faculty (full-time/adjunct/part-time)

1. **Provide curriculum vitae or program faculty information form for all full-time program faculty.** The vita or form should include the following: all degrees and institutions granting the degrees; field or specialty of degrees; number of years employed as program faculty at the institution; current academic rank, if applicable; professional certifications/licenses; evidence of quality and quantity of creative and scholarly/research activity; evidence of quality and quantity of service activities; evidence of professional activities and non-teaching work experiences related to courses taught; list of course numbers/course titles of credit courses taught over the past two academic years; and other evidence of quality teaching.

   The vitas for full-time faculty are attached in **Appendix C** of this self-study.

2. **Indicate the academic credentials required for adjunct/part-time faculty teaching major/program courses.**

   SAU Tech adheres to the academic credential requirements of faculty for non-transfer terminal career and technical degree programs as outlined in the accreditation policies of the Higher Learning Commission of the North Central Association of Colleges and Schools. Adjunct faculty members are required to hold the same minimum credential levels.

3. **Describe the orientation and evaluation processes for faculty, including adjunct and part-time faculty.**
Faculty and adjunct faculty orientation provides the new employee with information that will ease the transition into the workplace; paints a precise picture of the department and the institution as a whole; introduces the new employee to departmental goals, policies and procedures, customs and traditions; conveys the employer’s expectations; relieves the new employee’s anxieties about starting a new job; and inspires the new employee to have a good attitude toward the college and his/her new job.

New employees are oriented by the college’s human resources officer and the employee’s immediate supervisor. Each new employee is given an orientation packet on the first day of employment. The new employee orientation packet is divided into five sections: a welcome letter from chancellor, an orientation checklist, human resources information, payroll and benefits information, and departmental information.

After completing the orientation checklist, the human resources and payroll and benefits staff as well as the employee and their supervisor, must sign and date the form. Since the departmental orientation is the final step in the process, the departmental supervisor must return the original checklist to the human resources office. The employing department retains a copy of the checklist in the department files and provides the new employee with a copy. The original is returned to the human resources office approximately thirty (30) days from the date of hire.

During the first two years of employment, evaluation is intensive. Evaluation consists of student evaluations of teaching for course taught by faculty, classroom observation by the vice chancellor for academics (or his designee) at least once each semester, and annual self-evaluations.

After the initial first two years of employment, student evaluations continue for every course. During the third and fourth years, the vice chancellor for academics or designee observes the instructor once each year. After the fourth year, faculty are not observed unless deemed necessary by the vice chancellor for academics. Faculty continue to submit annual self-evaluations, and the vice chancellor for academics evaluates faculty based upon student evaluations, self-evaluations, assessment data, student success data, and professional development.

Classroom observations are conducted on adjunct faculty in all classes taught each semester regardless of years of adjunct service.

4. Provide average number of courses and number of credit hours taught by full-time program faculty for current academic year.

A full-time faculty load is 15 credit hours. Faculty members are allowed to carry one course overload. Additional course overloads must be approved by the Vice Chancellor for Academics and the Chancellor. Mr. Horton is faculty for the Industrial Maintenance emphasis. Mr. Burns is faculty for the Welding Academy. There are no full-time faculty for the Engineering emphasis. Loads for the 2013-2014 academic year are:
Eddie Horton  Fall 2012: *9 courses, 27 credit hours, 4 overload courses  
               Spring 2013: *10 courses, 30 credit hours, 5 overload courses  
Casey Burns  Fall 2012: +6 courses, 18 credit hours  
               Spring 2013: +6 courses, 18 credit hours  

*This includes 4 “8 week condensed courses” designed as part of  
the DOL PACE grant requirements.  
+Mr. Burns teaches 9 credit hours in the day welding program  
and team-teaches 9 credit hours in the evening welding program.  

IV. Program Resources  

1. Describe the institutional support available for faculty development in teaching, research, and service.  

SAU Tech provides professional development funds under the vice chancellor for academics  
for faculty to retain needed industry-standard certifications. In addition, the faculty senate  
group provides funding for travel and professional-development opportunities of their  
choosing for faculty. The college requires faculty to maintain up-to-date certifications.  

2. Describe the professional development of full-time program faculty over the past two years  
including the institutional financial support provided to faculty for the activities.  

Eddie Horton (Approximately $5,600):  
Spring and Fall Convocations with teacher in-service training.  
OSHA recertification training.  
Green Initiative Training through Perdue University provided  
PACE Initiative training  
SIM Welder Training  

Casey Burns (Approximately $4,000):  
AWS Certification  

3. Provide the annual library budget for the program or describe how library resources are  
provided for the program.  

SAU Tech’s Library does not allocate its budget according to programs or any other formal  
formulae (i.e. enrollment, student semester credit hour production, etc.); rather materials are  
purchased based on instructor recommendations and requests. Library allocations for the  
general technology program for the previous three years are below:  

<table>
<thead>
<tr>
<th>Department</th>
<th>Budget</th>
</tr>
</thead>
<tbody>
<tr>
<td>Industrial</td>
<td>$1,462.25</td>
</tr>
<tr>
<td>Maintenance</td>
<td></td>
</tr>
<tr>
<td>Welding</td>
<td>$940.67</td>
</tr>
<tr>
<td>Engineering</td>
<td>$1,203.30</td>
</tr>
</tbody>
</table>
4. Describe the availability, adequacy, and accessibility of campus resources (research, library, instructional support, instructional technology, etc.).

The college provides on-site professional development opportunities as well as web-based professional development opportunities for faculty. The general technology program has annual equipment and supplies budget of $20,000 and a student worker budget of $2,000. In addition, the vice chancellor for academics manages the academic program improvement budget of $60,000 for special or emergency academic program equipment purchases shared by all programs. The welding program has an annual equipment budget of $50,000 and a supply budget of $120,000. The college replaces computers in all programs on a 30-month rotation. The computer services department provides technological support to programs as needed. The college attempts to maintain up-to-date, industry-standard labs for academic programs.

5. Provide a list of program equipment purchases for the past three years.

<table>
<thead>
<tr>
<th>Qty</th>
<th>Description</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>Industrial Maintenance:</strong></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Simwelder</td>
<td>$48,000</td>
</tr>
<tr>
<td>15</td>
<td>Thermadyne welders</td>
<td>$31,000</td>
</tr>
<tr>
<td>2</td>
<td>Cutmaster 52 plasma cutters</td>
<td>$2900</td>
</tr>
<tr>
<td>4</td>
<td>Hobart 140 wire welders</td>
<td>$2400</td>
</tr>
<tr>
<td>6</td>
<td>Millermatic 252 wire welders</td>
<td>$23,100</td>
</tr>
<tr>
<td>15</td>
<td>Down draft tables</td>
<td>$53,400</td>
</tr>
<tr>
<td>1</td>
<td>Computerized Zing Epilog Lazer Engraver</td>
<td>$8700</td>
</tr>
<tr>
<td>1</td>
<td>Hand held FLIR</td>
<td>$3300</td>
</tr>
<tr>
<td></td>
<td><strong>Engineering Technology:</strong></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>LR Mate 1iA Robot Trainer</td>
<td>$38,000</td>
</tr>
<tr>
<td>1</td>
<td>LR Mate 200id/4s Robot Trainer</td>
<td>$35,000</td>
</tr>
<tr>
<td>22</td>
<td>Laptop computers</td>
<td>$26,000</td>
</tr>
<tr>
<td></td>
<td><strong>Welding Technology:</strong></td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>Welders</td>
<td>$45,000</td>
</tr>
<tr>
<td>15</td>
<td>Downdraft Machines</td>
<td>$5,000</td>
</tr>
</tbody>
</table>

V. Instruction via Distance Technology

This section should be completed if at least 50 percent of any program/major course is delivered electronically.
The general technology program is less than 50% available on-line.

VI. Majors/Declared Students

1. State the number of undergraduate/graduate majors/declared students in each degree program under review for the past three years.

   **Industrial Maintenance Technology**
   
   2011-2012 = 55  
   2012-2013 = 64  
   2013-2014 = 65  
   184

   **Engineering Technology**
   
   2011-2012 = 10  
   2012-2013 = 19  
   2013-2014 = 20  
   49

   **Welding Technology**
   
   2011-2012 = 15  
   2012-2013 = 15  
   2013-2014 = 24  
   54

2. Describe strategies to recruit, retain, and graduate students.

   Faculty members provide brief program overviews to high school students who visit the campus during college day and preview days each semester. Students are exposed to lab environments and the faculty explains methods and expectations of the program and the employment skills that can be acquired through the program. SAU Tech employs two full-time recruiters who engage traditional and non-traditional potential students throughout the year. The college’s retention efforts include an early alert system, mentoring, academic advising, and tutoring. In addition, faculty uses lab time for tutoring students. The college’s program has a small student-to-instructor ratio.

3. Provide the number of program graduates over the past three years.

<table>
<thead>
<tr>
<th>Major/Degree</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
<th>Grand Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engineering CP</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>PLC CP</td>
<td>0</td>
<td>9</td>
<td>0</td>
<td>9</td>
</tr>
<tr>
<td>Welding CP</td>
<td>2</td>
<td>19</td>
<td>19</td>
<td>40</td>
</tr>
</tbody>
</table>
VII. Program Assessment

1. Describe the program assessment process and provide outcomes data.

All of SAU Tech’s academic programs fall under the college’s academic assessment plan. The college assesses at the program and course level with student learning goals and outcomes. All academic programs also assess the five general education competencies expected of all graduates in the areas of communication literacy, computer literacy, global awareness, critical thinking, and research skills.

The general technology assessment plan with results currently consists of 168 pages and is therefore too large to include in this self-study. The entire program assessment report is available on request. Below is a summary of the assessment results for the previous two years.

Student competencies on program goals and outcomes in the industrial maintenance emphasis were at 81.5 percent in academic year 2010-2011 and 86.25 percent in academic year 2011-2012.

Student competencies on program goals and outcomes in the engineering technology emphasis were at 96.0 percent in academic year 2010-2011 and 94.5 percent in academic year 2011-2012.

Student competencies on program goals and outcomes in the welding program were 85.4 % in academic year 2011-2012

2. Describe program/major exit or capstone requirements.

General technology program students are expected to acquire skills that prepare them for employment within the maintenance, engineering, welding field, and/or through continuing education. The program curriculum is designed to provide the necessary competencies, skills, and knowledge to meet each emphasis program expectation. The general program does not currently have a capstone course or exam. The industrial maintenance, engineering, and welding programs have a capstone course. The program
level assessment plan is designed to measure, over the course of the program, student skills and knowledge for program completers.

The industrial maintenance capstone course is CE-2401 Internship. Students participate in a carefully monitored work experience with a participating employer. Students work alongside a professional in the industry to put their skills into practice, gain new skills, and add to their knowledge base with hands-on experience.

The engineering technology capstone course (EN-2023 Engineering Concepts II) ties together many parts of prior course work within the Engineering emphasis. Students participate in team building exercises to develop profiles of engineering, future challenges, problem solving, visualizations and graphics, teamwork, and project management. A team-based management project is required.

The welding program capstone addresses the overall skill sets acquired throughout the training, allowing a collective review of GTAW and SMAW weld processes in the 2G, 5G, and 6G positions per American Welding Society specifications. During the Capstone course, students are allowed some flexibility in their desired focus, dependent upon what particular welding employment they intend to pursue. This seems to better prepare students for entering the workforce in their chosen specialty. Students are also provided training in proper resume writing and interview processes with staged interviews with prospective employers as part of the capstone experience.

3. **Provide information on how teaching is evaluated, the use of student evaluations, and how the results have affected the curriculum.**

During the first two years of employment, evaluation is intensive. Evaluation consists of student evaluations of teaching for every class, classroom observation by the vice chancellor for academics (or designee) at least once each semester, and annual self-evaluations.

After the initial first two years of employment, student evaluations continue for every class. During the third and fourth years, the vice chancellor for academics or designee will observe the instructor once each year. After the fourth year, faculty will not be observed unless deemed necessary by the vice chancellor for academics. Faculty will continue to submit self-evaluations each year, and vice chancellor for academics will evaluate faculty based upon student evaluations, self-evaluations, assessment data, student success data, and professional development.

Student evaluations are conducted in every course each semester. The academic departmental secretaries are responsible for overseeing web-based evaluations. The office of planning, accountability and development processes completed assessments. Three copies of the statistical results and student comments are prepared. One copy is given to the instructor, one to the vice chancellor for academics for use in the faculty evaluation process and for record keeping, and one for the chancellor.
In addition, course and program level student learning assessment results are evaluated by the college’s assessment committee. The purpose of the college’s assessment of student learning is improvement of teaching and learning. Data is collected by faculty, analyzed, and used to make relevant revisions to program curricula, courses, and teaching methodologies for the purpose of improving student knowledge and success of program outcomes, goals and objectives.

4. Provide transfer information for major/declared students including the receiving institutions for transfer and programs of study.

Until recently the college has been unable to track transfer data. However, with the recent purchase of membership in the National Student Clearinghouse, the college will now be able to track transfer data as long as the institution the student transfers into also uses the service. In checking the clearinghouse, no data exists for the last three years on program transfer students. Although no official documentation exists, the college is aware that no welding academy students transferred, as all were offered positions and employed after graduation for all three years.

5. Provide information for program graduates continuing their education by entering graduate school or by performing volunteer service.

SAU Tech nor the Arkansas Department of Higher Education has a process in place to track transfer of students into graduate programs or volunteer service.

6. Provide aggregate results of student/alumni/employer satisfaction surveys.

The college currently does not have a formal process in place to collect student/alumni/employer satisfaction information. However, faculty members maintain contact with employers regarding satisfaction with the skills and knowledge of graduates hired. Faculty reported that employers are very pleased with the technical skills of SAU Tech’s general technology graduates. Employers have suggested that graduates need more soft skills and program faculty are working to infuse more soft skill curricula into the program.

7. Describe how the program is aligned with the current job market needs of the state or local communities.

All programs in the General Technology program maintain close ties with industry partners in order to keep their curriculum at industry-standard expectations. A few of our industry partners include: Lockheed Martin, General Dynamics, Raytheon, Day & Zimmermann, Georgia Pacific, Deltec Timber, Cross Oil, Zodiac Aerospace, Albemarle, Southern Aluminum, Clean Harbors, Thermoflite, Systems Contractors, Martin Packaging, Estherline Defense, West-Frazier, and Weyerhaeuser.
8. Provide job placement information for program graduates including the number of graduates placed in jobs related to the field of study.

Faculty attempted to contact graduates from 2011-2013 to obtain job placement information including names of employer, average hourly rate of pay or salary, and if the company and position held required the credential obtained or if skills obtained in program were useful on the job. Not all graduates were able to be reached and those reached and interviewed did not provide all data requested. Job placement information which was obtained from graduates is provided below:

**Industrial Maintenance:**
2   City of Camden  
3   SAU Tech  
1   Private Welding Inspector  
3   Estherline Defense Corp  
2   Arkansas Highway and Transportation Department  
4   Lockheed Martin Missiles and Fire Control  
1   Clean Harbors Corp  
1   Zodiac Aerospace Corp

Average pay is $17-19 per hour.

**Engineering Technology:**
This program graduated its first students in May 2014

**Welding Technology:**
22 graduates obtained employment as welders with the following companies:
   Systems Contractors  
   Spencer Harris  
   Thermoflite Corp  
   Reliance Well Service  
   Turner Contractors

Average pay is $19-22 an hour.

VIII. Program Effectiveness (Strengths & Opportunities)

1. List the strengths of the program.

**Industrial Maintenance:**
This is a field of study that is and will be in demand for several years due to the lack of millwrights and maintenance techs throughout the country. The program schedule is flexible; offering classes four days a week, day and evening schedule, and summer. Faculty are flexible to meet the need of student schedules.
Engineering Technology:
This program was completely revised with the oversight of the program advisory committee in 2012-13. The curriculum is industry-standard and allows students to enter employment upon graduation or continue their studies at Southern Arkansas University in the Bachelor of Science degree in Industrial Maintenance. Currently there are no full time faculty in the program but local area industry engineers serve as adjunct faculty.

Welding Technology:
The program offers six hours of hands-on training a day for four days a week. The program is only three years old and has the latest state-of-the-art equipment. Students are allowed the opportunity to start the day early or stay late to continue lab work beyond scheduled class hours. A certified welding inspector is on staff to conduct AWS welding certifications.

2. List the areas of the program most in need of improvement.

   Industrial Maintenance:
   A means to maintain contact with graduates into their employment careers is needed.

   Engineering Technology:
   A full-time faculty member is needed for the program.

   Welding Technology:
   Additional space is needed to expand the size of the program. Currently the facility can only support a class size of 15. An administrative support position is needed.

3. List program improvements accomplished over the past two years.

   Industrial Maintenance:
   A major need has been met with the lease of the off-campus facility for the program located on the Camden Airport property in the old National Guard facility.

   Engineering Technology:
   The revision of this program from the old Manufacturing Technology degree to meet the needs of local industry for mid-level engineers and production managers was a major accomplishment.

   Welding Technology:
   An evening class was added in 2013-2014 with an additional 15 slots available. Eight students participated in the program. Blueprint reading was added to the curriculum in 2013-2014 at the request of industry.

4. Describe planned program improvements, including a timetable and the estimated costs. Identify program improvement priorities.

   Industrial Maintenance:
   A major goal of the industrial maintenance program is to double the size of the program over the next three years. During the summer 2014, the program is relocating to a facility off
campus to provide more space and greater visibility. The cost of this move will be a lease requirement of $500 a month for five years. Several new non-traditional courses will be developed (including Millwright Level I in fall 2014) to ensure expansion of the program while continuing to meet the training needs in the Industrial Maintenance field.

**Engineering Technology:**
The program underwent a major curricular review and revision in 2012-13 as part of the college’s participation in the DOL TAACCCT PACE Grant initiative. The college feels this program is in good shape and no program changes are expected in the near future.

**Welding Technology:**
The program maintains a five year strategic plan for equipment replacement. Approximately $80,000 is spent over the five-year period to purchase equipment.

**IX. Institutional Review Team**

*List the names/departments of this self-study, the committee chair and committee members.*

Robert Gunnels, Vice Chancellor for Academics, Chair  
Bill Archer, Welding Academy Coordinator, Vice-Chair  
Eddie Horton, Industrial Maintenance Instructor  
Steve Candler, Industrial Technology Instructor  
Richard Sloan, Engineering Technology Adjunct Instructor  
Casey Burns, Welding Academy Instructor  
Stuart Dufrene, Welding Academy Instructor

**APPENDIX A**

**General Technology**  
**Program Credentials**

**GENERAL TECHNOLOGY**
## Associate of Applied Science Degree

**Name:** _____  
**Student ID:** _____

### Developmental Course Work

<table>
<thead>
<tr>
<th>Need</th>
<th>Required according to placement test scores such as: ACT, ASSET, COMPASS or SAT</th>
</tr>
</thead>
<tbody>
<tr>
<td>☐ CO0143</td>
<td>Introduction to Language Arts</td>
</tr>
<tr>
<td>☐ CO0243</td>
<td>Writing Workshop</td>
</tr>
<tr>
<td>☐ GSTD1003</td>
<td>Freshman Seminar</td>
</tr>
</tbody>
</table>

*I understand that when seeking a degree, I may be required to enroll in basic skills courses as a result of my test scores and Arkansas Law, Act 1052, and it will take additional semester(s) to complete a degree at SAU Tech.*

### Requirements

<table>
<thead>
<tr>
<th>Need</th>
<th>General Education:</th>
</tr>
</thead>
<tbody>
<tr>
<td>☐</td>
<td>ENGL1113 Composition I</td>
</tr>
<tr>
<td>☐</td>
<td>ENGL1123 Composition II or</td>
</tr>
<tr>
<td>☐</td>
<td>CO2213 Technical Writing</td>
</tr>
<tr>
<td>☐</td>
<td>CS 3 Computer Science Elective</td>
</tr>
<tr>
<td>☐</td>
<td>MATH1003 Technical Math</td>
</tr>
<tr>
<td>☐</td>
<td>HIST 3 U.S. History I or II or</td>
</tr>
<tr>
<td>☐</td>
<td>PSCI2003 American Government</td>
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<table>
<thead>
<tr>
<th>Need</th>
<th>Focus Area Electives:</th>
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<table>
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<th>Technical Electives:</th>
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</table>

Technology related, Technical or Work Experience:

| Technology related transfer course work from another accredited institution. |  |
| Technical program course work taught by SAU Tech. |  |
| Selected work experience from business & industry or other approved Credit for Prior Learning. |  |

**Total Requirements:** 60

### Notes:

1. Students must meet entrance requirements for composition & mathematics prior to taking the college-level courses.
2. Those students desiring to earn a four-year degree should take a four-credit lab science elective.
3. Students will be assigned a technical advisor to assist in selection of focus area courses and electives.
4. Courses in the focus area must be from a single technology area: electronics, aviation, manufacturing, industrial maintenance, computer technology, multimedia technology.
5. Portfolio Development course must be taken in order for credit to be awarded from selected work experience from business & industry or other approved Credit for Prior Learning.
6. A minimum of 15 credit hours must be in residency at SAU Tech.

*Revised*
### GENERAL TECHNOLOGY

#### EMPHASIS IN INDUSTRIAL MAINTENANCE

**Associate of Applied Science Degree**

**Name:** ______  
**Student ID:** ______

### DEVELOPMENTAL COURSE WORK

<table>
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<tr>
<th>Need</th>
<th>REQUIRED according to placement test scores such as: ACT, ASSET, COMPASS or SAT</th>
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<tr>
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<td>Introduction to Language Arts</td>
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<tr>
<td>☐ CO0243</td>
<td>Writing Workshop</td>
</tr>
<tr>
<td>☐ GSTD1003</td>
<td>Freshman Seminar</td>
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I understand that when seeking a degree, I may be required to enroll in basic skills courses as a result of my test scores and Arkansas Law, Act 1052, and it will take additional semester(s) to complete a degree at SAU Tech.

### REQUIREMENTS

<table>
<thead>
<tr>
<th>CP</th>
<th>TC</th>
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<th>Semester</th>
<th>Grade</th>
<th>Credits</th>
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<tr>
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<td>Introduction to Basic Electricity</td>
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<tr>
<td>MD1033</td>
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<tr>
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<td>MD1123</td>
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<td>Mechanical Devices (NCCER Core 1)</td>
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<td>MD1323</td>
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<td>Intermediate Welding</td>
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<tr>
<td>MD1403</td>
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<td>Basic Blueprint Reading</td>
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<td>Advanced Industrial Safety</td>
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<tr>
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<td>Technical Writing</td>
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<tr>
<td>EM2924</td>
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<td>Internship I</td>
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<td>EM2213</td>
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<tr>
<td>MD2403</td>
<td></td>
<td>Fluidics (Hydraulics/Pneumatics)</td>
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</table>
NOTE: Student wishing to transfer coursework in this degree to SAU Magnolia for the S.S. in engineering Physics – Industrial Technology Option must take Composition II, College Algebra, and General Physics with Lab & work closely with the Industrial Technology Program Coordinator at SAU Magnolia.

GENERAL TECHNOLOGY

EMPHASIS IN ENGINEERING TECHNOLOGY

Associate of Applied Science Degree

Name: _____    Student ID: _____

I understand that when seeking a degree, I may be required to enroll in basic skills courses as a result of my test scores and Arkansas Law, Act 1052, and it will take additional semester(s) to complete a degree at SAU Tech.
<table>
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<td>PHYS2023</td>
<td>College Physics and</td>
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<td>PHYS2021</td>
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<table>
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<tr>
<td>EN2023</td>
<td>Engineering Concepts II</td>
</tr>
<tr>
<td>3</td>
<td>Social Science Elective</td>
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| Total Requirements | 60 |

**Certificate of Proficiency in Engineering Technology**

<table>
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<tr>
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**Technical Certificate in Engineering Technology**

<table>
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**NOTE:** Students wishing to transfer coursework in this degree to SAU Magnolia for the B.S. in Engineering Physics – Industrial Technology Option must take Composition II, College Algebra, and General Physics with Lab and work closely with the Industrial Technology Program Coordinator at SAU Magnolia.

**APPENDIX B**

**General Technology Program Course Syllabi**

**Southern Arkansas University Tech**

**Intro to Basic Electricity EE-1003**

**Course Syllabus**

**Compressed/Hybrid Course**

**August 29 – October 24**

**Fall 2012**

**SAU Tech Mission Statement**

Southern Arkansas University Tech is a comprehensive, Two-year, public college committed to providing quality educational programs to meet the needs of its service area. Within its resources, the college accomplishes its mission through technical career programs, transfer curricula, continuing education, developmental education, and administrative, student, and community service. SAU Tech recognizes that a disability may preclude a student from demonstrating required course competencies or from completing course requirements necessary for an A.A., A.S., or A.A.S. degree or certificate programs in the same manner expected of nondisabled students. In compliance with Section 504 of the Rehabilitation Act of 1973, and the Americans with Disabilities Act of 1990, qualified students with disabilities may request that appropriate course accommodations be considered. Students are encouraged to meet with Disability Services to develop a plan for their academic accommodations. Requests for accommodations must be made within two (2) weeks of the start of each semester.
SAU Tech Assessment Philosophy
Southern Arkansas University Tech has developed a program to assess the learning outcomes of its students to assure that the College is achieving its mission. The Assessment Program is designed to measure the level of skills and competencies gained by students at the program and course levels as well as within the General Education curriculum for all Associate Degree students. Assessment activities are performed in a number of ways including placement exams prior to enrollment, program level goals and objectives, and classroom assessment techniques. Faculty identifies desired student learning outcomes on the program and classroom level and then assess through various methodologies how well those outcomes have been achieved. The college uses the data obtained from assessment measures to improve student academic achievement and the instructional methodologies delivered by the institution.

I. Course Name and Number: Intro to Basic Electricity EE-1003

II. Meeting Schedule: Wednesday 5:30- 8:50 PM, compressed course (8-29-12 to 10-24-12) additional lab time will be required. Contact instructor for additional info

III. Instructional Information:
Instructor: Horton  Office: Manufacturing Building
Phone: 870/574/4431  e-mail: ehorton@sautech.edu

IV. Prerequisites: none

V. Course Description: This course provides an introduction to several types of electrical parts and fittings. The student will be exposed to various wire sizes, their applications, wiring attachments and their functions and wiring trainers. This is a basic class on electricity and electrical parts. Electrical safety will also be a big part of the class.

VI. Course Outcomes: The student will show a minimum of 70% proficiency on course assessments for the following outcomes:

1. Summarize the relationship between electricity and magnetism.
2. Define and use basic electrical terms.
3. Compare / contrast basic direct current (DC) and alternating current (AC) circuits.
4. Identify components used in residential electrical wiring.
5. Demonstrate an understanding of basic electrical safety.

VII. Outcome Objectives/Measures:

1. Summarize the relationship between electricity and magnetism.
   - Magnet origin
2. Define and use basic electrical terms.
   - Define voltage, current, resistance, power, conductor and insulator
   - Identify components by their terminology (visually)

3. Compare/contrast basic direct current (DC) and alternating current (AC) circuits.
   - Describe and identify AC current
   - Describe and identify DC current
   - Identify (AC) and (DC) components

4. Identify components used in residential electrical wiring
   - Perform electrical wiring on trainer
   - Wire identification by sizes
   - Identify various connectors and fittings
   - Perform hands on work with electrical tools and components
   - Perform hands on duties on electrical trainer

5. Demonstrate an understanding of electrical safety
   - Perform electrical safety tests
   - GFCI applications
   - Shop safety
   - Electrical shock hazards

II. **Textbook & Learning Materials:** Practical electricity by, Paul Rosenberg

IX. **Supplies:** Pencil or pen and note pad.

X. **Course Requirements & Policies:** Students must complete Learning Strategies before logging into course work unless previously completed. SAU Tech Attendance policy and Safety policy will be in effect. Students will adhere to strict safety requirements. Students will be required to do additional lab time for the course. Students must log in to the Internet side of this course for a minimum of 3 hours per week or minimum 2 test attempts per week to review and study the selected items for the final exam.

XI. **Learning Assessments:**
1. Participation will be part of grades
2. Completion of Learning Strategies, unless previously completed.
3. Class/lab participation
4. Safety in class and lab 100 points
5. One class project worth 200 points
6. Individual electric trainers worth 200 points

XII. **Mastery Level:**
Grades will be assigned according to the following scale:
A = 90 – 100%
B = 80 – 89%
C = 70 – 79%
D = 60 – 69%
F = Below 60%

Course Syllabus
Southern Arkansas University Tech
EE1323 DC/AC Analysis for Engineering

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SAU Tech recognizes that a disability may preclude a student from demonstrating required course competencies or from completing course requirements necessary for an A.A., A.S., or A.A.S. degree or certificate programs in the same manner expected of nondisabled students. In compliance with Section 504 of the Rehabilitation Act of 1973, and the Americans with Disabilities Act of 1990, qualified students with disabilities may request that appropriate course accommodations be considered. Students are encouraged to meet with Disability Services to develop a plan for their academic accommodations. Requests for accommodations must be made within two (2) weeks of the start of each semester.

I. Course Name and Number: DC/AC Analysis-Engineering, EE1323
II. Meeting Schedule: MW 12:45PM-2:50PM
III. Instructional Information:
   Instructor: Office:
   Office Hours: e-mail:
   Phone:
IV. Prerequisites: None
V. **Course Description:** A study of DC and AC electricity with circuit analysis developing student skills and understanding with breadboard circuits and electrical test equipment with mathematical applications. Hands-on laboratory exercises reinforce theoretical concepts, as well as give students practical experience using electronic test equipment such as the digital multimeter and the oscilloscope. Basic semiconductor theory will also be covered.

VI. **Course Outcomes:** 90% of students will score 70% or better on test questions and Labs involving the following:
1. Lab Safety
2. Mathematics used in Electronics
3. Formulas used in Electronics
4. Electronic Schematics
5. Electronic Circuit Problem Solving/Troubleshooting
6. Electronic Equipment

**Outcome Objectives/Measures:**
1. Lab Safety
   A. Describe safe lab practices.
   B. Demonstrate safe practices in the lab daily.
2. Mathematics used in Electronics
   A. Solve basic math and algebra problems.
   B. Solve problems involving scientific and engineering notation.
3. Formulas used in Electronics
   Solve problems using:
   A. Ohm’s Law.
   B. Watt’s Law.
   C. Series and parallel resistances, capacitances and inductances.
   D. Impedance formulas.
4. Electronic Schematics
   A. Sketch the symbols for resistors, capacitors, inductors, cells, batteries, transformers, diodes, and transistors.
   B. Given a symbol, identify the component.
   C. Breadboard circuits from a schematic diagram.
5. Electronic Circuit Problem Solving/Troubleshooting
   A. Sort a selection of components by value.
   B. Sort a selection of components by good/bad.
   C. Solve for electrical parameters in circuit diagrams.
   D. Using proper procedures, locate a bad component in a circuit.
6. Electronic Equipment
   A. Use a multimeter to test components and troubleshoot circuits.
   B. Use an oscilloscope to view DC, waveforms, and to troubleshoot circuits.
   C. Perform simple soldering tasks

VII. **Textbook & Learning Materials:** Cook’s *Electronics, a Complete Course*, 2nd edition, Pearson
VIII. **Supplies:** Scientific calculator, digital multimeter, small screwdriver, needle nose pliers, side cutters, safety glasses, solder station

IX. **Course Requirements & Policies:**
Any work turned in late will be assessed a “late charge”, which will depend on how late the work is turned in.

Quizzes (pop-tests) may be given at any time, and **no make-ups** will be allowed on quizzes due to absence or tardiness.

Tests will always be announced at least one class period in advance of the test. If you are absent on the day of a test, you **may** be allowed to take a make-up test with a valid excuse. The make-up test may be different from the original, and a late charge will be assessed.

You **must** contact the instructor if you want to make up any work missed due to an absence. Students are expected to attend class. Make-up work for classes missed may be arranged only with the instructor’s consent. It is the student’s responsibility to contact the instructor concerning make-up work. Students who have greater than two absences may be dropped from the class. The instructor will attempt to contact students who have attendance difficulties. The names of students who have excessive absences may also be given to the counselor for further follow-up.

No horseplay will be tolerated! Electricity is dangerous and Lab equipment is expensive.

All students are expected to conduct themselves in a pleasant, civil, courteous, and sociable manner at all times in the classroom. Rudeness, bigotry, sarcasm, and/or obscene or abusive language will not be tolerated. Students displaying such behavior will be required to leave class. Any student dismissed from class for such behavior must seek the approval of the Vice Chancellor for Instruction to reenter the classroom. Repeated objectionable behavior or disruption of the class will result in permanent dismissal.

X. **Learning Assessments:** Student performance on written tests, Labs, feedback from employers

XI. **Mastery Level:**
Letter grades will be assigned according to the following scale:
- **A = 90 – 100%**
- **B = 80 – 89%**
- **C = 70 – 79%**
- **D = 60 – 69%**
- **F = Below 60%**

Grades will be based on 2/3 Lecture, 1/3 Lab

XII. **Weather Closings:**
Announcements of weather related closings will be made by 7 A.M. for day classes or 2 P.M. for evening classes. Camden radio stations (KAMD FM 97.1, KCXY—Y95 FM 95.3, KMGC FM 104.5) will be notified and will announce such closings. When possible, KATV channel 7 in Little Rock will be notified. Day classes are those classes that meet Monday through Friday and begin before 4 P.M. Evening classes are those classes that meet Monday through Friday and begin at 4 P.M. or later. Special weekend class cancellations will be determined and announced by the sponsoring academy, agency, or institution. Off campus class cancellations will be determined by the conditions at that location, and announcements will be made from that location.

Revised 6/18/2012 Candler

Southern Arkansas University Tech
Industrial Electricity EM-2213
Course Syllabus

SAU Tech Mission Statement
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I. Course Name and Number: EM2213 Industrial Electricity
II. Meeting Schedule: MW 5:30-8:20pm TE111
III. **Instructor Information:**

IV. **Instructional Methods:** Instructor utilizes a combination of homework assignments, (reading and problem solving), notebook, class discussion, demonstrations, lecture and laboratory work.

V. **Prerequisites:** Knowledge of electricity and basic electronics.

VI. **Course Description:** This course covers basic electricity theory, motors, motor controls, transformers, and electrical applications.

VII. **Course Outcomes:**

Upon completion of this course the student will achieve a 70% proficiency on the following course outcomes:

1. Identify fundamental industrial electricity terminology.
2. Demonstrate an understanding of the concept and use of the electricity.
3. Create, design and draw major electrical circuits.
4. Understand the important parts in industrial electricity and their functions.
5. Analyze and be able to troubleshoot industrial electrical circuits.

**Objectives:**

1. Identify fundamental industrial electricity terminology.
   - The student will become acquainted with the acronyms used in electrical circuitry talk.
   - The student will become acquainted with the various terms associated with electricity.
   - The student will respond to technical language used.
2. Demonstrate an understanding of the concept and use of the electricity.
   - The student will distinguish between home and industrial uses.
   - The student will analyze the value of a machine.
   - The student will know why certain parts are needed to supply electrical sources to industry.
3. Create, design and draw major electrical circuits.
   - The student will demonstrate schematic use by reading and drawing schematic diagrams.
   - The student will plan, draft and produce a special diagram.
4. Understand the important parts in industrial electricity and their functions.
   - The student will identify all major components.
   - The student will recognize the uses of components.
   - The student will know the best types of components for each procedure.
   - The student will define component properties.
5. Analyze and be able to troubleshoot industrial electrical circuits.
• The student will perform minor and major troubleshooting analysis and troubleshoot problem circuits.
• The student will make suggestions on the procedure to fix a circuit and perform those repairs.

    

X. **Supplies:** Breadboard. Digital meter, notebook, calculator.

XI. **Course Requirements and Policies:**
    1. The attendance requirements are the same as the school handbook. A student will be dropped after three unexcused absences. These requirements will be strictly enforced. Students are expected to attend class.
    2. Any test missed can only be made up by schedule based on instructor availability.
    3. Absolutely no Labs may be made up
    4. All students are expected to conduct themselves in a pleasant, civil, courteous, and sociable manner at all times in the classroom. Rudeness, bigotry, sarcasm, and/or obscene or abusive language will not be tolerated. Students displaying such behavior will be required to leave class. Any student dismissed from class for such behavior must seek the approval of the Vice Chancellor for Instruction to reenter the classroom. Repeated objectionable behavior or disruption of the class will result in permanent dismissal. Faculty members are expected to dismiss students from their classroom whose behavior is detrimental to good order and a positive learning environment.

XII. **Learning Assessment:**
    1. Evaluation of student progress will be by written tests and lab data to measure proficiency on course outcomes and objectives.
    2. Written exams will be taken to cover each unit of instruction.
    3. Make-up tests will only be given for an excused absence. It will be scheduled at the instructor's discretion during non-class time.

XIII. **Semester Grade will be determined as follows:**
    Unit Tests  60%
    Lab Work  30%
    Final Exam  10%

XIV. **Class Rules:**
    1. Safety is first priority!
    2. No horseplay!
    3. The labs must be kept clean.
    4. All electronic devices are to be turned off before leaving them.
    5. Make sure all parts or equipment are placed in the proper place.
Southern Arkansas University Tech
EM-2924 Programmable Logic Controller
Course Syllabus
Fall 2005

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XIII. Course Name and Number: EM-2924 01

XIV. Meeting Schedule: F 08:00 a.m. – 12:30 p.m.

XV. Instructional Information:
   Instructor: Stephen Willis Office: Tech Engineering Bldg #3
   Phone: e-mail: swillis@cei.net

XVI. Prerequisites: EE-2424 Digital Circuits or instructor consent.

XVII. Course Description: This course is designed as an introduction to programmable controller systems. Students learn what programmable controller systems are, how they work, and how they can be used to control various processes and machines. PLC hardware, software, numbering systems, logic, and ladder logic programming will all be covered. This course is taught featuring the Allen-Bradley SLC 5/02 processor and RSLogix programming software.
XVIII. Course Outcomes:

On successful completion of this course, 90% of students will be able to demonstrate a basic knowledge of the following by scoring 70% or better on written tests and labs:
1. Identify fundamental PLC terminology
2. Identify and understand usage of PLC hardware components
3. Demonstrate an understanding of numbering systems
4. Demonstrate an understanding of the fundamentals of logic
5. Be able to create, design, draw, and enter into software program ladder logic programs.

Outcome Objectives/Measures:
1. Identify fundamental PLC terminology.
   • Become acquainted with PLC acronyms.
   • Become acquainted with various terms associated with PLC’s.
2. Identify and understand usage of PLC hardware components.
   • Describe the major PLC hardware components.
   • Demonstrate a working knowledge of hardware components by assembling individual components into a functioning PLC system.
3. Demonstrate an understanding of five numbering systems.
   • Perform conversion from any one numbering system to another.
   • Make application to PLC programming.
4. Demonstrate an understanding of the fundamentals of logic.
   • Become acquainted with the basic logic functions – AND, OR, NOT.
   • Develop logic circuits from Boolean Expressions.
   • Develop ladder logic programs from logic circuits.
5. Be able to create, design, draw, and enter into software program ladder logic programs.
   • Identify and describe the basic PLC programming instructions.
   • Learn to convert relay ladder diagrams to ladder logic programs.
   • Given a narrative description of a manufacturing problem, be able to draw an input/output diagram, a relay ladder program, design a PLC ladder program and enter it into the PLC trainer to verify its accuracy.

XIX. Textbook & Learning Materials:

XX. Supplies:

XXI. Course Requirements & Policies:
- Class will consist of lecture and lab.
- Supplemental work and/or homework assignments may be assigned.
- Students will conform to proper work habits and safety procedures.

**Attendance Policy:**
First Absence: Student must contact instructor during posted office hours.
Second Absence: Student will have a written warning placed in their file.
Third Absence: In accordance with school policy student may be dismissed from class.

**Tardiness:**
- Student will be considered tardy when he/she is late for class up until 20 minutes after class has begun.
- Three tardies will be considered as one absence.
- Missing more than 20 minutes of a class (at the beginning or end) will constitute an absence.

**Behavior Policy:**
All students are expected to conduct themselves in a pleasant, civil, courteous, and sociable manner at all times in the classroom. Rudeness, bigotry, sarcasm, and/or obscene or abusive language will not be tolerated. Students displaying such behavior will be required to leave class. Any student dismissed from class for such behavior must seek the approval of the Vice Chancellor for Instruction to reenter the classroom. Repeated objectionable behavior or disruption of the class will result in permanent dismissal. Faculty members are expected to dismiss students from their classroom whose behavior is detrimental to good order and a positive learning environment.

**XXII. Learning Assessments:**
- Evaluation of student progress will be by written test and lab data.
- Written test will be developed to cover each unit of instruction.
- If a student misses a test for any reason, it can only be taken at the designated time as given by the instructor. One make-up test day will be given for each half of the semester. This make-up test day will be the week before mid-term exams and the week before final exams.
- To receive credit for lab work, all work must be turned in to the instructor on the day that it is assigned, unless PRIOR arrangements have been made with the Instructor.

**Semester Grade will be determined as follows:**

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<th>Weight</th>
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</thead>
<tbody>
<tr>
<td>Written Tests</td>
<td>%</td>
</tr>
<tr>
<td>Lab Work</td>
<td>%</td>
</tr>
<tr>
<td>Comprehensive Final Exam</td>
<td>%</td>
</tr>
</tbody>
</table>

**XXIII. Mastery Level:**
Grades will be assigned according to the following scale:

A = 90 – 100%
SAU Tech Mission Statement
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General Education Mission Statement and Competencies:
Southern Arkansas University Tech recognizes its role in preparing its associate degree graduates to function as competent and skilled workers to achieve any continuing academic goals and to live as life-long learners and thinkers. Consequently, general education at SAU Tech is designed to assist students in understanding the connection between their course work, their social and vocational responsibilities, and their rewards as citizens of a free nation. In order to support its general education mission, SAU Tech has adopted the following competencies expected of all its associate degree graduates:
1. Proficiency in reading, writing, speaking and listening.
2. Computer literacy skills.
3. A historical, cultural, social, and global perspective.
4. Critical thinking and problem solving skills: scientific, mathematical, social, and personal.
5. Research skills.

I. Course Name and Number: Introduction to Engineering EN-1003
II. Meeting Schedule:
III. Instructor Information:

Office:
Office Hours:
Office Phone:
Email Address:

IV. Instructional Methods:

Instructor will utilize class time consisting of lecture, homework assignments, class discussion, and demonstrations.

V. Course Description: This course includes a history of engineering processes. It further details a study of various engineering disciplines to include electrical, mechanical, civil, chemical, and computer engineering. Students should also gain knowledge of a variety of design processes. Prerequisite: None

VI. Course Outcomes:

A. Students will maintain a minimum 70% proficiency on the following course outcomes:

1. Understand the history and development of scientific, technical, engineering, and mathematics (STEM).
2. Understand the differences between STEM elements
3. Understand various degree opportunities under the general heading of engineering.
4. Help the students match their personnel interests, strengths, and goals to educational opportunities.
5. Provide insight to daily tasks of local engineering employees

VII. Learning Materials:


Supplies: The student will need paper, notebook, and pencil. Internet access.

VIII. Course Requirements and Policies:

Attendance Policy: It is very important to the success of this class to attend all classes. During the course of the semester, absences will occur. One absence per semester hour is the maximum allowed. The student who exceeds the maximum can be dropped from the course. Extensions for extenuating circumstances may be granted. It is the student’s responsibility to contact the instructor upon return to the class after an absence.

Assignments:
Classroom Behavior policy: All students are expected to conduct themselves in a pleasant, civil, courteous, and sociable manner at all times in the classroom. Rudeness, bigotry, sarcasm, and/or obscene or abusive language will not be tolerated. Students displaying such behavior will be required to leave class. Any student dismissed from class for such behavior must seek the approval of the Vice Chancellor for Instruction to reenter the classroom. Repeated objectionable behavior or disruption of the class will result in permanent dismissal.

IX. Learning Assessments:

X. Mastery Level:

90% - 100% A, 80% - 89% B, 70% - 79% C, Below 70% F

Approved
Academic Affairs
July 2, 2012

Southern Arkansas University Tech
Syllabus
EN 1023 Engineering Concepts I

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6. Proficiency in reading, writing, speaking and listening.
7. Computer literacy skills.
8. A historical, cultural, social, and global perspective.
9. Critical thinking and problem solving skills: scientific, mathematical, social, and personal.
I. Course Name and Number: Engineering Concepts I EN-1023

II. Meeting Schedule:

III. Instructor Information:

Office:
Office Hours:
Office Phone:
Email Address:

IV. Instructional Methods:

Instructor will utilize class time consisting of lecture, homework assignments, class discussion, and demonstrations.

V. Course Description: Students are taught the principles of engineering including design, communication, ethics, and fundamentals of management. Related parameters referencing time, length, mass, temperature, force, and other engineering concepts are also included. Prerequisite: EN 1003

VI. Course Outcomes:

A. Students will maintain a minimum 70% proficiency on the following course outcomes:

6. Understand the principles of engineering design
7. Understand the principles related to communications and ethics within the field of engineering
8. Understand the fundamentals associated with the field of engineering management
9. Develop a fundamental understanding of the basic principles and concepts of time, length, mass, temperature, and force related to the field of engineering

VII. Learning Materials:

Text:

Supplies: The student will need paper, notebook, and pencil. Internet access.
VIII. Course Requirements and Policies:

Attendance Policy: It is very important to the success of this class to attend all classes. During the course of the semester, absences will occur. One absence per semester hour is the maximum allowed. The student who exceeds the maximum can be dropped from the course. Extensions for extenuating circumstances may be granted. It is the student’s responsibility to contact the instructor upon return to the class after an absence.

Assignments:

Classroom Behavior policy: All students are expected to conduct themselves in a pleasant, civil, courteous, and sociable manner at all times in the classroom. Rudeness, bigotry, sarcasm, and/or obscene or abusive language will not be tolerated. Students displaying such behavior will be required to leave class. Any student dismissed from class for such behavior must seek the approval of the Vice Chancellor for Instruction to reenter the classroom. Repeated objectionable behavior or disruption of the class will result in permanent dismissal.

XI. Learning Assessments:

XII. Mastery Level:

90% - 100% A, 80% - 89% B, 70% - 79% C, Below 70% F

Approved
Academic Affairs
July 2, 2012

Southern Arkansas University Tech
Syllabus
EN 2023 Engineering Concepts II
Southern Arkansas University Tech recognizes its role in preparing its associate degree graduates to function as competent and skilled workers to achieve any continuing academic goals and to live as life-long learners and thinkers. Consequently, general education at SAU Tech is designed to assist students in understanding the connection between their course work, their social and vocational responsibilities, and their rewards as citizens of a free nation. In order to support its general education mission, SAU Tech has adopted the following competencies expected of all its associate degree graduates:

11. Proficiency in reading, writing, speaking and listening.
12. Computer literacy skills.
13. A historical, cultural, social, and global perspective.
14. Critical thinking and problem solving skills: scientific, mathematical, social, and personal.
15. Research skills.

I. Course Name and Number: Engineering Concepts II EN-2023

II. Meeting Schedule:

III. Instructor Information:

Office: 
Office Hours: 
Office Phone: 
Email Address: 

IV. Instructional Methods:

Instructor will utilize class time consisting of lecture, homework assignments, class discussion, and demonstrations.

V. Course Description: This 4th semester course ties together many parts of prior course work within the Engineering degree. Students participate in team building exercises to develop profiles of engineering, future challenges, problem solving, visualizations and graphics, teamwork, and project management. A team-based management project will be required. Prerequisite: EN 1023

VI. Course Outcomes:

A. Students will maintain a minimum 70% proficiency on the following course outcomes:

10. Understand the structure, properties, and mechanical behavior of engineering materials
11. Develop the concept of teamwork
12. Develop the concept of engineering-related problem solving
13. Develop the concept of engineering-related project management
14. Understand future challenges and opportunities within the field of engineering
VII. Learning Materials:


Supplies: The student will need paper, notebook, and pencil. Internet access.

VIII. Course Requirements and Policies:

Attendance Policy: It is very important to the success of this class to attend all classes. During the course of the semester, absences will occur. One absence per semester hour is the maximum allowed. The student who exceeds the maximum can be dropped from the course. Extensions for extenuating circumstances may be granted. It is the student’s responsibility to contact the instructor upon return to the class after an absence.

Assignments:

Classroom Behavior policy: All students are expected to conduct themselves in a pleasant, civil, courteous, and sociable manner at all times in the classroom. Rudeness, bigotry, sarcasm, and/or obscene or abusive language will not be tolerated. Students displaying such behavior will be required to leave class. Any student dismissed from class for such behavior must seek the approval of the Vice Chancellor for Instruction to reenter the classroom. Repeated objectionable behavior or disruption of the class will result in permanent dismissal.

XIII. Learning Assessments:

XIV. Mastery Level:

90% - 100% A, 80% - 89% B, 70% - 79% C, Below 70% F

Approved
Academic Affairs
July 2, 2012

Southern Arkansas University Tech
Intro to Basic Electricity EE-1003
Course Syllabus
Compressed/Hybrid Course
August 29 – October 24
Fall 2012

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resources, the college accomplishes its mission through technical career programs, transfer curricula, continuing education, developmental education, and administrative, student, and community service. SAU Tech recognizes that a disability may preclude a student from demonstrating required course competencies or from completing course requirements necessary for an A.A., A.S., or A.A.S. degree or certificate programs in the same manner expected of nondisabled students. In compliance with Section 504 of the Rehabilitation Act of 1973, and the Americans with Disabilities Act of 1990, qualified students with disabilities may request that appropriate course accommodations be considered. Students are encouraged to meet with Disability Services to develop a plan for their academic accommodations. Requests for accommodations must be made within two (2) weeks of the start of each semester.

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I. Course Name and Number: Intro to Basic Electricity EE-1003

II. Meeting Schedule: Wednesday 5:30- 8:50 PM, compressed course (8-29-12 to 10-24-12) additional lab time will be required. Contact instructor for additional info

III. Instructional Information:
Instructor: Horton Office: Manufacturing Building
Phone: 870/574/4431 e-mail: ehorton@sautech.edu

IV. Prerequisites: none

VIII. Course Description: This course provides an introduction to several types of electrical parts and fittings. The student will be exposed to various wire sizes, their applications, wiring attachments and their functions and wiring trainers. This is a basic class on electricity and electrical parts. Electrical safety will also be a big part of the class.

IX. Course Outcomes: The student will show a minimum of 70% proficiency on course assessments for the following outcomes:

1. Summarize the relationship between electricity and magnetism.
2. Define and use basic electrical terms.
3. Compare / contrast basic direct current (DC) and alternating current (AC) circuits.

4. Identify components used in residential electrical wiring.

5. Demonstrate an understanding of basic electrical safety.

X. **Outcome Objectives/Measures:**

1. Summarize the relationship between electricity and magnetism.
   - Magnet origin
   - Magnetic poles and their effects
   - Summarize the effects of magnets and electricity

2. Define and use basic electrical terms.
   - Define voltage, current, resistance, power, conductor and insulator
   - Identify components by their terminology (visually)

3. Compare/contrast basic direct current (DC) and alternating current (AC) circuits.
   - Describe and identify AC current
   - Describe and identify DC current
   - Identify (AC) and (DC) components

4. Identify components used in residential electrical wiring
   - Perform electrical wiring on trainer
   - Wire identification by sizes
   - Identify various connectors and fittings
   - Perform hands on work with electrical tools and components
   - Perform hands on duties on electrical trainer

5. Demonstrate an understanding of electrical safety
   - Perform electrical safety tests
   - GFCI applications
   - Shop safety
   - Electrical shock hazards

III. **Textbook & Learning Materials:** Practical electricity by, Paul Rosenberg

IX. **Supplies:** Pencil or pen and note pad.

X. **Course Requirements & Policies:** Students must complete Learning Strategies before logging into course work unless previously completed. SAU Tech Attendance policy and Safety policy will be in effect. Students will adhere to strict safety requirements. Students will be required to do additional lab time for the course. Students must log in to the Internet side of this course for a minimum of 3 hours per
week or minimum 2 test attempts per week to review and study the selected items for
the final exam.

XII. **Learning Assessments:**
1. Participation will be part of grades
2. Completion of Learning Strategies, unless previously completed.
3. Class/lab participation
4. Safety in class and lab 100 points
5. One class project worth 200 points
6. Individual electric trainers worth 200 points

XII. **Mastery Level:**
Grades will be assigned according to the following scale:
- A = 90 – 100%
- B = 80 – 89%
- C = 70 – 79%
- D = 60 – 69%
- F = Below 60%

Southern Arkansas University Tech
**Machine Tools MD-1033**
Course Syllabus
Fall Semester 2013

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prior to enrollment, program level goals and objectives, and classroom assessment
techniques. Faculty identifies desired student learning outcomes on the program and classroom
level and then assess through various methodologies how well those outcomes have been
achieved. The college uses the data obtained from assessment measures to improve student
academic achievement and the instructional methodologies delivered by the institution.

I. **Course Name and Number: Machine Tools MD-1033**
II. Meeting Schedule:

III. Instructional Information:
Instructor: Horton          Office: Manufacturing Building
Phone: 870/574/4431        e-mail: ehorton@sautech.edu

IV. Prerequisites: none

XI. Course Description: This course provides certificates of training in multiple areas. Students will be trained to operate powered industrial trucks, Scissor lift equipment and Ariel work platforms. The student will also develop skills in the proper application of measuring instruments.

XII. Course Outcomes: The student will show a minimum of 70% proficiency on course assessments for the following outcomes:

1. Students will show the ability to perform equipment inspections.
2. Students will be able to operate equipment SAFELY
3. Show proper use of PPE
4. Show correct use of measuring device

XIII. Outcome Objectives/Measures:

1. Students will show the ability to perform equipment inspections.
   - OSHA required walk around inspections will be required
   - Inspection forms will be required
2. Students will be able to operate equipment SAFELY
   - Students will operate equipment in a safe manner.
3. Show proper use of PPE.
   - Students will be required to wear ALL necessary PPE
   - Students will don PPE in the correct manner.
4. Show correct use of measuring device.
   - Student will show proper use and care of tape measure.

IV. Textbook & Learning Materials: N/A
IX. **Supplies:** Pencil or pen and note pad.

X. **Course Requirements & Policies:** SAU Tech Attendance policy and Safety policy will be in effect. Students will adhere to strict safety requirements.

XIII. **Learning Assessments:**
1. Participation will be part of grades
2. Attendance is a must to meet requirements of equipment operations
3. Safety is required at all times

XII. **Mastery Level:**
Grades will be assigned according to the following scale:
- A = 90 – 100%
- B = 80 – 89%
- C = 70 – 79%
- D = 60 – 69%
- F = Below 60%

Southern Arkansas University Tech
Intro to Preventative Maintenance MD-1053
Course Syllabus
Fall 2005

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I. **Course Name and Number:** Intro to Preventative Maintenance MD 1053

II. **Meeting Schedule:**

III. **Instructional Information:**

   Instructor: Horton  
   Office: Manufacturing Building 9  
   Phone: 870/574/4431  
   e-mail: ehorton@sautech.edu

IV. **Prerequisites:** none

V. **Course Description:** This course provides an introduction to the field of preventative maintenance. This course will offer the student insight to lubrication such as grease types, oil types and their applicators. Knowledge of visual and hands on practices will be discussed. Visual inspections, vibration and heat changes will be discussed. Preventative maintenance routes and who runs them. Safety to equipment and to personnel.

VI. **Course Outcomes:** The student will show a minimum of 70% efficiency on course assessments for the following outcomes:

1. Identification of lubricants and their applicators.
2. Preventative maintenance routes and who runs them.
4. Vibration inspections of equipment.
5. Heat inspections of equipment.
6. Personal and equipment safety.

VII. **Outcome Objectives/Measures:**

   1. Identification of lubricants and their applicators.
      - Greases and oils
      - Viscosity and breakdowns
      - Applicators and applications

   2. P. M. routes and who runs them.
      - Identification of equipment
      - Identification of P.M. routes
      - Choosing the right person for the route

      - Identification of equipment problems
      - Visual inspections of equipment failures and causes
• Safety during visual inspections

4. Vibration inspections.
• Knowledge of surroundings
• Changes in equipment
• Vibration causes
• Temporary solutions
• Corrections

5. Heat inspections of equipment
• Causes of ambient temperature and changes
• Damage by heat
• Heat loss

6. Personal and equipment safety
• PPE
• Evacuation routes
• Surrounding dangers
• Proper notification

VIII. Textbook & Learning Materials.

IX. Supplies: Pencil or pen and note pad.

X. Course Requirements & Policies
1. SAU Tech attendance policy will be adhered to
2. Safety rules and guidelines will be followed
3. NO HORSEPLAY

XI. Learning Assessments:
1. Weekly exams 100 points
2. Class participation 100 points
3. Attendance will be part of grade
4. Safety practices 100 points

XII. Mastery Level:
Grades will be assigned according to the following scale:

A = 90 – 100%
B = 80 – 89%
C = 70 – 79%
D = 60 – 69%
F = Below 60%
Southern Arkansas University Tech
Mechanical Devices MD-1123
(NCCER Core 1)
Compressed Course
Course Syllabus

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I. Course Name and Number: Mechanical Devices MD-1123 01 (NCCER Core 1) (COMPRESSED COURSE) Students will be required to do off time (out of class) work. Contact instructor for additional info.

II. Meeting Schedule: M W 1:00-2:40 PM (8-29-12 to 10-24-12) Manufacturing Building 113

III. Instructional Information:
Instructor: Horton Office: Manufacturing Building
Phone: 870/574/4431 e-mail: ehorton@sautech.edu

IV. Prerequisites: none
XIV. **Course Description:** This course provides an introduction to various types of construction ideals including Safety, Construction Math, Hand tools and Power tools. This is the first of two courses that will be dedicated to the certification process from NCCER. By the student passing tests on given subjects, the students will be able to apply for a NCCER Certification at the end of NCCER Core 2.

XV. **Course Outcomes:** The student will show a minimum of 70% proficiency on course assessments for the following outcomes:

1. Complete Chapter 1.
2. Complete Chapter 2.
3. Complete Chapter 3.
4. Complete Chapter 4.

XVI. **Outcome Objectives/Measures:**

- Complete Chapter 1
  - Properly don and remove PPE
- Complete Chapter 2
  - Display correct use of tape measure.
- Complete Chapter 3
  - Visually inspect a hammer, saw and screw driver for defects.
- Complete Chapter 4
  - Make a straight cut with a circular saw.


Computer access will be required by the student. Completion of the Learning Strategies course required prior to entering the course work for this course. Students must attempt practice test at least once per chapter.

IX. **Supplies:** Pencil or pen and note pad.

X. **Course Requirements & Policies:** SAU Tech Attendance policy and Safety policy will be in effect. Students will adhere to strict safety requirements. Students will be required to do additional off time (out of class) work.

XIV. **Learning Assessments:**
1. Attendance will be part of grades
2. Class/lab participation is mandatory
3. Exam attempts will be required to justify participation, passing exams will be required of student for certification.

XII. Mastery Level:
Grades will be assigned according to the following scale:
- A = 90 – 100%
- B = 80 – 89%
- C = 70 – 79%
- D = 60 – 69%

Southern Arkansas University Tech
MD-1303 Basic Welding
Course Syllabus
Fall 2005

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I. Course Name and Number: Basic Welding MD-1303

II. Meeting Schedule:

III. Instructional Information:
Instructor: Horton Office: Manufacturing Building
Phone: 870/574/4431 e-mail: ehorton@sautech.edu

IV. Prerequisites: none
V. **Course Description:** This course provides an introduction of the basic elements of welding. The student will be provided with training in SMAW and MIG welding. The basics of SMAW dealing with electrodes and machine settings, welding safety and hands on training will be offered. The basics of MIG welding and components will be covered. Oxy-Acetylene torch procedures and uses will be discussed and performed.

VI. **Course Outcomes:** The student will show a minimum of 70% proficiency on course assessments for the following outcomes:

1. Identify the process and components of SMAW.
2. Identify and show proper safety applications for SMAW, MIG and Oxy-acetylene torch.
3. Identify machine amp settings to appropriate electrode.
4. Identify the MIG process and components.
5. Show proper welding safety
6. Hands on welding features.

VII. **Outcome Objectives/Measures:**

1. **SMAW identification.**
   - What SMAW stands for
   - How SMAW is applied as a process
   - Electrode identification
   - Machine (various types) identification
   - Welding tools (misc. types) identification

2. Identify and show proper safety applications for SMAW, MIG and Oxy-acetylene torch.
   - Various uses of SMAW with safety applications
   - Correct safety procedures for SMAW
   - Welding tool applications and techniques
   - MIG safety applications and techniques
   - Oxy-acetylene (misc. types) applications and techniques

3. Show proper machine amp settings.
   - Amp settings for E6010
   - Amp settings for E6011
   - Amp settings for E6013
   - Amp settings for E7018
   - Amp settings will vary depending on rod diameter
4. Identify the MIG process
   - Identify proper gases
   - Identify correct wire sizes
   - Identify correct settings
   - Identify gauges, hoses and lead parts

5. Show proper welding safety
   - PPE'S
   - Identify hazards
   - What's flammable
   - Identify welding shields and lens grades
   - Watch out for your neighbor, they may be welding
   - Fire cautions

6. Hands on welding
   - Perform 6010 welds
   - Perform 6011 welds
   - Perform 6013 welds
   - Perform 7018 welds
   - Perform welds in flat and horizontal positions
   - MIG weld flat
   - MIG weld horizontal
   - MIG flux core
   - MIG solid

VIII. Textbook & Learning Materials: N/A

IX. Supplies: Pencil or pen and note pad.

X. Course Requirements & Policies: SAU Tech Attendance policy and Safety policy will be in effect. Students will adhere to strict safety requirements.

XI. Learning Assessments:
1. Attendance will be part of grades
2. Weekly lab exams on weld identification 100 point each
3. Class/lab participation
4. Safety in class and lab 100 points
5. Completion of all welds assigned worth 200 points

XII. Mastery Level:
Grades will be assigned according to the following scale:
   A = 90 - 100%
   B = 80 - 89%
   C = 70 - 79%
Southern Arkansas University Tech  
Intermediate Welding MD-1323  
Course Syllabus  
Spring 2010

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I. Course Name and Number: Intermediate Welding MD-1323

II. Meeting Schedule: tba

III. Instructional Information:  
Instructor: Horton  Office: Manufacturing Building  
Phone: 870/574/4431  e-mail: ehorton@sautech.edu

IV. Prerequisites: Basic Welding MD-1303

XVIII. Course Description: This course provides an extension of the basic elements of welding safety and welding functions. The student will be provided with training in extended uses and applications in SMAW and the uses and applications of MIG welding. Welding safety and hands on training will be offered.

XIX. Course Outcomes: The student will show a minimum of 70% proficiency on course assessments for the following outcomes:

5. Identify the process and components of MIG.
6. Identify machine amp settings to appropriate wire speed.

7. Show proper welding safety

8. Hands on welding features.

XX. Outcome Objectives/Measures:

1. MIG identification.
   - What MIG stands for
   - How MIG is applied as a process
   - Wire identification
   - Machine (various types) identification
   - Welding tools (misc. types) identification

2. Show proper machine amp settings.
   - Amp settings for .025
   - Amp settings for .023
   - Amp settings for .035
   - Amp settings for .044

3. Show proper welding safety
   - PPE’S
   - Identify hazards
   - What’s flammable
   - Identify welding shields and lens grades
   - Watch out for your neighbor, they may be welding
   - Fire cautions

4. Hands on welding activities
   - Perform flat position welds
   - Perform horizontal position welds
   - Perform vertical down position welds
   - Perform vertical up position welds

XXI. Textbook & Learning Materials: N/A

IX. Supplies: Pencil or pen and note pad.
X. **Course Requirements & Policies:** SAU Tech Attendance policy and Safety policy will be in effect. Students will adhere to strict safety requirements.

XV. **Learning Assessments:**
1. Participation will be part of grades
2. Weekly lab exams on weld identification
3. Class/lab participation
4. Safety in class and lab

XII. **Mastery Level:**
Grades will be assigned according to the following scale:

- A = 90 – 100%
- B = 80 – 89%
- C = 70 – 79%
- D = 60 – 69%
- F = Below 60%

Southern Arkansas University Tech
MD-1343 Advanced Welding
Course Syllabus
Fall 2005

SAU Tech Mission Statement
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SAU Tech Assessment Philosophy
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I. **Course Name and Number:** Advanced welding MD-1343

II. **Meeting Schedule:**

III. **Instructional Information:**
IV. Prerequisites: Basic welding or instructors approval

V. Course Description: This course will cover TIG welding and Heli-arc aluminum welding as well as a recap on SMAW and MIG. Plasma cutter operations will be covered.

VI. Course Outcomes: The student will show a minimum of 70% proficiency on course assessments for the following outcomes:

1. Make identification and show correct set up and functions of TIG and Heli-arc.
2. Identify and show proper safety of TIG, Heli-arc and plasma cutter.
3. Show proper use of materials to produce welds.
4. Demonstrate correct set up and operations of plasma cutter
5. Hands on operations.

VII. Outcome Objectives/Measures:

1. Make identification and show correct set up and functions of TIG, Heli arc and Plasma cutting.
   • TIG process identification
   • Heli-arc process identification
   • Plasma cutter process identification
   • TIG operations and set up
   • Heli arc operations and set up
   • Plasma cutter operations and set up

2. Identify and show proper safety of TIG, Heli-arc and plasma cutter.
   • TIG arc ray safety applications
   • TIG power source safety
   • TIG grounding applications and techniques
   • Heli-arc aluminum applications and techniques
   • Heli-arc UV protection techniques
   • Plasma cutter safety applications and techniques

3. Show proper use of materials to produce welds.
   • 3/32 TIG wire
   • 1/8 TIG wire
   • Stainless, aluminum and carbon wire
   • Proper wire feeding techniques
   • Stainless steel brushes for aluminum
• Argon gas applications
• Torch head assembly and hoses for TIG and Heli-arc applications

4. Demonstrate correct set up and operations of plasma cutter.

• Air pressures for cutting
• Tips and cones for SS
• Tips and cones for carbon
• Tips and cones for aluminum
• Gauge settings and heat ranges

5. Hands on operations
• Operate plasma cutter to cut carbon, SS, and aluminum
• Operate TIG on SS, and carbon
• Operate Heli-arc on aluminum
• Produce welds in various positions on all listed materials
• Produce welds and operations with SAFETY

VIII. Textbook & Learning Materials: N/A

IX. Supplies: Pencil or pen and note pad.

X. Course Requirements & Policies: SAU Tech Attendance policy and Safety policy will be in effect. Students will adhere to strict safety requirements.

XI. Learning Assessments:
1. Attendance will be part of grades
2. Weekly lab exams on weld identification 100 point each
3. Class/lab participation
4. Safety in class and lab 100 points
5. Produce satisfactory welds in various positions 200 points

XII. Mastery Level:
Grades will be assigned according to the following scale:
A = 90 – 100%
B = 80 – 89%
C = 70 – 79%
D = 60 – 69%
F = Below 60%

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1. **Course Name and Number:** Basic Blueprint Reading; MD1403-01
2. **Meeting Schedule:** Wednesday 5:30-8:20 p.m., Room TE104
3. **Instructor Information:** Mr. Myrle Harrison  
   Office Hours: M-Th, 6am - 4:30pm  
   Phone: (Wk) 574-0200 x4633 (Voice Mail)  
   Home: 231-4542 after 5pm weekdays (Voice Mail)  
   Email @home: myrle88@earthlink.net
4. **Introduction:** This course will provide a logical progression of print reading principles presented in short units of instruction, followed by immediate practical application.
5. **Course Description:** The basic principles of representing information on a drawing are presented in 35 units grouped into seven sections. The information contained in each unit will enable the student to study the assignment drawing and answer all questions in the assignment.
6. **Prerequisites:** None required.
7. **Learning Materials:** Machine Trades Blueprint Reading by David L. Taylor
8. **Course Outcomes:** The student will show a minimum of 70% proficiency on course assessments for the following outcomes.

8.1 Know and understand the type of Reproduction processes.
8.2 Ability to read and understand the information in Title Blocks.
8.3 Know and understand the Alphabet of Lines.
8.4 Know and understand the different type of Drawing Views.
8.5 Know and understand methods of Dimensioning and Tolerancing.
8.6 Know and understand use of various Notes and Symbols.

9. **Outcome Objectives/Measures:** Measurement will be assessed by homework and class participation for the following Objectives.

9.1 Identify the Reproduction process.
   A. Chemical Process
   B. Silver Process
   C. Electrostatic Process
   D. CAD Process
   E. Heat Process

9.2 Identify information contained in the Title Blocks.
   A. Name and Part number of the Drawing
   B. Tolerance used on the drawing
   C. Identify who drafted, approved, checked and date of drawing.
   D. Identify change notes and revision.
   E. Identify Parts lists and Materials used.

9.3 Identify the various lines used on drawing and their meaning.
   A. Object Lines
   B. Section Lines
   C. Hidden Lines
   D. Centerlines
   E. Dimension and Extension Lines
   F. Cutting Plane Lines
   G. Phantom and Leader Lines

9.4 Identify and how to sketch the various Drawing Views.
   A. Orthographic Projection
   B. One, Two, and Three View Drawings.
   C. Auxiliary Views
   D. Section Views

9.5 Recognize and understand the different methods of Tolerancing.
   A. Fractional Dimensions/Tolerancing
   B. Decimal Dimensions/Tolerancing
   C. Metric Dimensions/Tolerancing
   D. Angular Dimensions/Tolerancing
   E. Geometric Dimensions/Tolerancing
9. **Outcome Objectives/Measures: (Continued)**
   9.6 Know and understand use of various Notes and Drawing symbols
      A. Machining Symbols
      B. Surface Texture
      C. Revisions and Change Notes
      D. Machining Processes
      E. Welding Symbols

10. **Homework:** Homework will be assigned during each session and will compose 30% of the total grade for the course.

11. **Comprehensive Final Exam:** A comprehensive final exam will be given during the last scheduled class session.

12. **Class Participation:** Demonstration of a working knowledge of the subject matter will be accomplished through presentation of data and/or solution of exercises by discussion and lecture.

13. **Method of Instruction:** Instruction will be accomplished utilizing a combination of homework, class discussion, exercises and lecture.

14. **Final Grade:** The final grade in this course will be calculated from homework (30%), class participation (10%), and the final exam (60%). To pass the course, the student must have a final grade of 70% or better. A standard grading scale as follows will be used in determining the final grade for each student.

\[
\begin{align*}
90 - 100 & = A \\
80 - 89 & = B \\
70 - 79 & = C \\
60 - 69 & = D \\
0 - 59 & = F
\end{align*}
\]

15. **Attendance Policy:**

   A. Due to the nature of this course, class attendance is vital and tardiness must be kept to a minimum.
   B. Daily attendance is scored as 100 points. For each unexcused absence, a score of “zero” will be given for the daily attendance score and ten (10) percentage points will be deducted from the homework for that session.
   C. For each excused absence with makeup, Twenty percentage points (20) will be deducted from the daily attendance score and five (5) points from the homework for that session.
   D. Excused absence is defined as prior notification before the absence and
make-up is turning in the homework assignment for that session.

Course Syllabus
Computer Aided Design/Computer Aided Manufacturing (CAD/CAM)
MD-1603

SAU Tech Mission Statement:

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Course Description and Overview:

Computer Aided Design/Computer Aided Manufacturing (CAD/CAM) is the study of developing and interpreting engineering drawings, using computer aided drafting software to formalize engineering drawings, and using computer aided manufacturing software to convert the CAD drawing data into a tool path program for computer controlled machine.

This course is an online/Lab survey of CAD/CAM software and technologies. This class will explain techniques and operations performed with the help of CAD and CAM systems. The content is to understand engineering drawing and to be able to convert those to CNC machine language. Labs will cover MasterCam software and techniques.

Prerequisite: MD-2523 Automated Manufacturing – CNC (Computer Numerical Control).

Instructor Information:

Instructor: Faith Elliott Office: Internet Course
Home Phone: 870-574-1825 Work Phone: 870-574-0200 x4315
E-Mail: WebCT
Office Hours: Monday – Thursday 6 am – 4:30pm, Weekends (randomly) - E-mails
I will be in the lab/classroom 30 to 45 minutes prior to class.
Virtual Office Hours: Fridays 1:00 pm - 4:00 pm

Course Outcomes: Students will achieve a minimum 70% proficiency on the following course outcomes:

1. Students will become familiar with CAD/CAM software and programming/machine language.
2. Students will understand the concepts of engineering drawings.
3. Students will become familiar with MasterCam CAD/CAM software.
4. Students will develop critical thinking and problem solving skills within the context of CAD/CAM

**Outcomes – Objective/Measures:**

1. Students will become familiar with CAD/CAM software and programming/machine language.
   a. Students will demonstrate their mastery of this outcome on lab assignments and test questions.

2. Students will understand the concepts of engineering drawings.
   a. Understand the complexity of engineering drawings.
   b. Demonstrate they have acquired an understanding of engineering drawings.
   c. Identify multiple perspectives, assess problems, and develop themes and solutions using engineering drawings.

3. Students will become familiar with MasterCam CAD/CAM software
   a. Demonstrate a familiarity with MasterCam software
   b. Exhibit MasterCam knowledge through Labs
   c. Identify multiple perspectives using MasterCam

4. Students will develop critical thinking and problem solving skills within the context of CAD/CAM
   a. Student will be able to distinguish between relevant and irrelevant information.
   b. Review information in order to recognize problems.
   c. Arrange information into coherent forms in order to facilitate analysis.
   d. Draw appropriate conclusions and recognize viable solutions.

**Required Textbook:**


**Course Requirements and Policies:**

Students will read textbook and other materials and do assignments through the online course. This is a semi-self-paced course. All course work and exams must be completed by posted deadlines. You should pay careful attention to the dates listed in the course calendar for suggested and required deadlines. **IMPORTANT: Refer to the course calendar for coursework deadlines and Lab times!** Incomplete ("I") grades are not given in this course. The Course User Guide is an official part of the Course Syllabus.
Submitting Work/Labs: The completed assignments/Labs for each unit should be submitted to the instructor using e-mail or at the end of Lab. Coursework will usually be graded within 24-48 hours.

**Learning Assessments:**

- Four unit exams @ 200 points each
- Fourteen Quizzes @ 20 points each
- Final Exam 600 points
- 5 Lab Assignments @ 200 points each
- Total points possible: 2680 points

**Examination Format:**

There will be four unit exams and fourteen quizzes. Each quiz may be taken twice. For complete exam information see the Exam link on the course homepage.

The Final Exam is required to be taken at an approved Proctored location. Failure to do so will result in a grade of "0" for this exam. Visit our website at [www.sautech.edu](http://www.sautech.edu) for a list of approved sites or see the announcement section of myWebCT.

**Grading System:**

- A = 90-100%
- B= 80-89%
- C= 70-79%
- D= 60-69%
- F= 0-59%

**Academic Honesty:**

Because this is a semi-self-paced course, students are responsible for maintaining their discipline and motivation for completing the material required for each unit and to be prepared to take the exams in a timely manner. Students should pay close attention to the suggested completion dates and required deadlines for each unit and the course on the unit homepages and the course calendar.

I may be e-mailed at any time with questions or concerns regarding the course. If for any reason a student must drop the course, they should contact the instructor before doing so.
Professional integrity requires academic honesty. The work completed for this course and the exams taken should be done so only by the student registered for this course. Cheating, plagiarizing, falsification, and/or copying of other student's work, and/or any other academic dishonesty for a grade is expressly prohibited and will result in an "F" in the course. This course abides by the SAU Tech policy and regulations regarding student academic honesty (see 1998-99 catalog). If a student is suspected of academic dishonesty of any kind, the instructor may require the student to take exams in person on campus or have the exams proctored at their location.

Contacting the Instructor:

Students are required to contact the instructor once per unit by course e-mail.

Emergency e-mail address: faith.elliott@lmco.com

Approved 11-27-06
Office of Instruction

Southern Arkansas University Tech
Fluidics MD-2403
Course Syllabus
Spring 2006

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I. Course Name and Number: Fluidics MD-2403

II. Meeting Schedule: M 5:30-8:20 P/M Manufacturing Building
III. **Instructional Information:**
Instructor: Horton Office: Manufacturing Building
Phone: 870/574/4431 e-mail: ehorton@sautech.edu

IV. **Prerequisites:** Student must be eligible for MA-1033

V. **Course Description:** A study in the field of fluid power that presents the fundamental physical principles of hydraulics. Practical lab work will be performed, utilizing both hydraulic and pneumatic components.

VI. **Course Outcomes:** The student will show a minimum of 70% proficiency on course assessments for the following outcomes:

1. Identify fluid power safety.
2. Identify hydraulic components.
3. Identify pneumatic components.

VII. **Outcome Objectives/Measures:**

1. **Identify fluid power safety.**
   - Pressure identification
   - Leak identification
   - Oil/skin contact
   - Spill precautions
   - Clean up procedures

2. **Identify hydraulic components.**
   - Oil identification
   - Hose identification
   - Filter identification
   - Fitting identification
   - Pump identification

3. **Identify pneumatic components.**
   - Hose identification
   - Regulator identification
   - Filter identification
   - Fitting identification

4. **Compare/contrast hydraulics and pneumatics components.**
   - Describe and identify hoses
   - Describe and identify fittings
   - Describe and identify hydraulic systems
   - Describe and identify pneumatic systems
   - Hands on trainer functions
VIII. **Textbook & Learning Materials:** Industrial Fluid Power, Volume 1-3rd edition, Womack Educational Publications.

IX. **Supplies:** Pencil or pen and note pad.

X. **Course Requirements & Policies:** SAU Tech Attendance policy and Safety policy will be in effect. Students will adhere to strict safety requirements.

XI. **Learning Assessments:**
1. 1. Attendance will be part of grades
2. 2. Weekly lab exams 100 point each
3. 3. Class/lab participation

XII. **Mastery Level:**
Grades will be assigned according to the following scale:
- A = 90 - 100%
- B = 80 - 89%
- C = 70 - 79%
- D = 60 - 69%
- F = Below 60%

**Course Syllabus**
Automated Manufacturing - CNC
Internet Course
MD-2523

**Instructor Information:**

Instructor: Faith Elliott  
Office: Internet Course  
Home Phone: 870-574-1825  
Work Phone: 870-574-0200 x4315  
E-Mail: WebCT  
Office Hours: Monday – Thursday 6 am – 4:30pm, Weekends (randomly)  
Virtual Office Hours: Fridays 1:00 pm - 4:00 pm

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**Course Overview:**

Principles of computer numerical control, application, and programming concepts. Problem solving experience in programming, program preparation within the context of CNC machines.

This course is an online survey of CNC (computer numerical control) machines. This class will explain operations performed with the help of CNC. The content is to understand what CNC is and how it works. Content covers the basic machines as well as programming for the more experienced user.

**Course Outcomes:** Students will achieve a minimum 70% proficiency on the following course outcomes:

1. Students will become familiar with CNC machines and programming language
2. Students will understand the concepts of NC Machine Tools
3. Students will understand Flexible Automation as it pertains to CNC machines
4. Students will develop critical thinking and problem solving skills within the context of CNC

**Outcomes – Objective/Measures:**

1. Students will become familiar with CNC machines and programming language
   a. Students will demonstrate their mastery of this outcome on relevant short paper assignments or test questions.
2. Students will understand the concepts of NC Machine Tools
   a. Understand the complexity of NC Machines.
   b. Show they have acquired an understanding of NC machines
   c. Identify multiple perspectives, assess problems, develop themes and solutions.
3. Students will understand Flexible Automation as it pertains to CNC machines
   a. Demonstrate a familiarity with CNC Programming
   b. Show they have acquired an understanding of CNC machines
c. Identify multiple perspectives, assess problems, develop themes and solutions

4. Students will develop critical thinking and problem solving skills within the context of CNC
   a. They can distinguish between relevant and irrelevant information.
   b. Review information in order to recognize problems.
   c. Arrange information into coherent forms in order to facilitate analysis.
   d. Draw appropriate conclusions and recognize viable solutions.

Required Textbook:


Course Requirements and Policies:

Students will read textbook and other materials and do assignments through the online course. This is a semi-self-paced course with suggested completion dates for lessons, assignments, and exams and required deadlines. All course work and exams must be completed by the last day of classes. Incomplete ("I") grades are not given in this course. The Course User Guide is an official part of the Course Syllabus.

Learning Assessments:

- Four unit exams @ 200 points each
- Nineteen Quizzes @ 20 points each
- Final Exam 400 points
- 4 Discussion Assignments @ 20 points each
- Total points possible: 1,660 points

Examination Format:
There will be four unit exams and nineteen quizzes. Each quiz may be taken twice. For complete exam information see the Exam link on the course homepage.

The Final Exam is required to be taken at an approved **Proctored** location. Failure to do so will result in a grade of "0" for this exam. Visit our website at [www.sautech.edu](http://www.sautech.edu) for a list of approved sites or see the announcement section of myWebCT.

**Grading System:**

- A = 90-100%
- B= 80-89%
- C= 70-79%
- D= 60-69%
- F= 0-59%

**Academic Honesty:**

Because this is a semi-self-paced course, students are responsible for maintaining their discipline and motivation for completing the material required for each unit and to be prepared to take the exams in a timely manner. Students should pay close attention to the suggested completion dates and required deadlines for each unit and the course on the unit homepages and the course calendar.

I may be e-mailed at any time with questions or concerns regarding the course. If for any reason a student must drop the course, they should contact the instructor before doing so.

Professional integrity requires academic honesty. The work completed for this course and the exams taken should be done so only by the student registered for this course. Cheating, plagiarizing, falsification, and/or copying of other student's work, and/or any other academic dishonesty for a grade is expressly prohibited and will result in an "F" in the course. This course abides by the SAU Tech policy and regulations regarding student academic honesty (see 1998-99 catalog). If a student is suspected of academic dishonesty of any kind, the instructor may require the student to take exams in person on campus or have the exams proctored at their location.

**Contacting the Instructor:**

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I. Course Name and Number: Industrial Safety MD-2603

II. Meeting Schedule:

III. Instructional Information:
Instructor: Horton Office: Manufacturing Building
Phone: 870/574/4431 e-mail: ehorton@sautech.edu

IV. Prerequisites: none

V. Course Description: This course provides instruction for industrial safety. The student will be exposed to chemical safety, fire safety, hygiene safety, industrial accident prevention, industrial shop safety, ladder safety, and safety equipment.

VI. Course Outcomes: The student will show a minimum of 70% proficiency on course assessments for the following outcomes:

1. Make identification and show proper hands-on skills use of ladder safety.
2. Identify and show proper safety applications and techniques with ladders.
3. Show proper use of safety harnesses and lanyards.
4. Identify correct industrial hygiene habits.
5. Identify chemical safety hazards.
6. Identify shop safety hazards
7. Show proper fire prevention and fire hazards.
8. Identify safety hazards as prevention.

VII. Outcome Objectives/Measures:

1. Make identification and show proper hands-on use of ladder safety.
   - Ladder identification
   - Ladder weight identification
   - Ladder height formulas
   - Ladder specifications
   - Fiberglass vs. aluminum ladders

2. Identify and show proper safety applications and techniques with ladders.
   - Ladder wall height formulas
   - Ladder safety applications and techniques
   - Ladder anchoring techniques
   - Personnel ladder ergonomics
   - Permanent ladders and uses
   - Ladder dimensions

3. Show proper use of safety harnesses and lanyards.
   - Safety harness identification and inspection
   - Lanyard identification and inspection
   - Proper harness fit
   - Proper lanyard applications
   - Harness weight limits
   - Correct harness and lanyard uses

4. Identify correct industrial hygiene habits.
   - What not to put in your mouth in industry
   - Eye protection and contamination through the eyes
   - Identifying cuts and scrapes
   - Identifying escape route in an emergency
   - Identify air born substances
   - Knowledge of general cleanliness for industry

5. Identify chemical safety hazards

* Identify chemical placards
• Identify chemical safe storage
• Identify correct chemical handling
• Show proper identification of MSDS

6. Identify shop safety hazards

• Identify trip hazards
• Identify electrical hazards
• Identify slip and fall hazards
• Identify unsafe acts

7. Show fire prevention and fire hazards

• Identify fire extinguishers
• Show proper extinguisher locations
• Identify future fire potentials
• Show how to eliminate fire dangers

8. Identify safety hazards as a prevention

* Identify general safety features in a shop
* Identify safety regulations as prevention
* Identify potential hazards and correct

VIII. Textbook & Learning Materials: N/A

IX. Supplies: Pencil or pen and note pad.

X. Course Requirements & Policies: SAU Tech Attendance policy and Safety policy will be in effect. Students will adhere to strict safety requirements.

XI. Learning Assessments:
1. Attendance will be part of grades
2. Weekly lab exams on Safety 100 point each
3. Class/lab participation
4. Safety in class and lab 100 points

XII. Mastery Level:
Grades will be assigned according to the following scale:
  A = 90 – 100%
  B = 80 – 89%
  C = 70 – 79%
  D = 60 – 69%
  F = Below 60%

Southern Arkansas University Tech
Maintenance Management MD-2633 (NCCER Core 2)
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providing quality educational programs to meet the needs of its service area. Within its
resources, the college accomplishes its mission through technical career programs, transfer
curricula, continuing education, developmental education, and administrative, student, and
community service. SAU Tech recognizes that a disability may preclude a student from demonstrating required
course competencies or from completing course requirements necessary for an A.A., A.S., or A.A.S. degree or
certificate programs in the same manner expected of nondisabled students. In compliance with Section 504 of the
Rehabilitation Act of 1973, and the Americans with Disabilities Act of 1990, qualified students with disabilities may
request that appropriate course accommodations be considered. Students are encouraged to meet with Disability
Services to develop a plan for their academic accommodations. Requests for accommodations must be made within
two (2) weeks of the start of each semester.

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designed to measure the level of skills and competencies gained by students at the program and
course levels as well as within the General Education curriculum for all Associate Degree
students. Assessment activities are performed in a number of ways including placement exams
prior to enrollment, program level goals and objectives, and classroom assessment
techniques. Faculty identifies desired student learning outcomes on the program and classroom
level and then assess through various methodologies how well those outcomes have been
achieved. The college uses the data obtained from assessment measures to improve student
academic achievement and the instructional methodologies delivered by the institution.

I. Course Name and Number: Maintenance Management MD-2633 (NCCER Core 2) Compressed Course, additional off time (out of class) work will be required by the student

II. Meeting Schedule: M W 1:00-2:40 PM (10-25-12 to 12-11-12) MB113

III. Instructional Information:
Instructor: Horton Office: Manufacturing Building
Phone: 870/574/4431 e-mail: ehorton@sautech.edu

IV. Prerequisites: NCCER Core 1

XXII. Course Description: This course provides an introduction to several ideals from the
NCCER Construction core text to include Construction type Drawings, Basic rigging,
Communication skills, employability skills and Material Handling. Upon completion
of the two NCCER core courses the student will have had the opportunity to receive a
NCCER Certification.
XXIII. Course Outcomes: The student will show a minimum of 70% proficiency on course assessments for the following outcomes:

9. Complete Chapter 5

XXIV. Outcome Objectives/Measures:

1. Recognize basic drawing terms.
2. Identify slings and basic rigging hardware.
3. Communicate effectively in on-the-job situations.
4. Explain your role as a future employee in the construction field.
5. Use proper material handling techniques.

Computer access will be required by the student. Completion of the Learning Strategies course will be required prior to entering the course work for this course. Students must attempt the practice exams at least once per chapter.

IX. Supplies: Pencil or pen and note pad.

X. Course Requirements & Policies: SAU Tech Attendance policy and Safety policy will be in effect. Students will adhere to strict safety requirements. Students will be required to do additional off time (out of class) work.

XVI. Learning Assessments:
1. Attendance will be part of grades
2. Class/lab participation is mandatory
3. Exam attempts will be required, students must pass exams to receive certification

XII. Mastery Level:
Grades will be assigned according to the following scale:

A = 90 – 100%
B = 80 – 89%
C = 70 – 79%
D = 60 – 69%
F = Below 60%

Southern Arkansas University Tech
MD 2713, Computer Integrated Manufacturing II (CIM II)
SAU Tech Mission Statement
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SAU Tech Assessment Philosophy
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General Education Mission Statement and Competencies:
Southern Arkansas University Tech recognizes its role in preparing its associate degree graduates to function as competent and skilled workers to achieve any continuing academic goals and to live as life-long learners and thinkers. Consequently, general education at SAU Tech is designed to assist students in understanding the connection between their course work, their social and vocational responsibilities, and their rewards as citizens of a free nation. In order to support its general education mission, SAU Tech has adopted the following competencies expected of all its associate degree graduates:

16. Proficiency in reading, writing, speaking and listening.
17. Computer literacy skills.
18. A historical, cultural, social, and global perspective.
19. Critical thinking and problem solving skills: scientific, mathematical, social, and personal.
20. Research skills.

I. Course Name and Number: MD-2713 Computer Integrated Manufacturing (CIM) II
II. Meeting Schedule: Thursday - 05:30 to 08:20 pm
   ROOM TE111
III. Instructor Information: Faith Elliott
    Work Phone: 574-0200 ext 4315
    Home Phone: 574-1825
    Cell Phone: 818-6008
    Email Address: faith.elliott@lmco.com
You should be able to get in contact with me!
IV. Instructional Methods:

Mandatory Class time per week: 3 hours - 1 class periods (3 credit hrs).

Instructor will utilize class time consisting of lecture, homework assignments, class discussion, demonstrations, CIM lab, and board work. A written paper on topics from the text or approved by professor is required.

V. Course Description: CIM II is a one semester, 3 credit hour advanced course to introduce students to the integration of product design techniques and fundamental manufacturing principles. The identification, operation, and application of the many systems that must be integrated into the future highly automated factory. Advanced Systems include material handling hardware, forming, shaping and processing machinery, automatic warehousing and storage equipment, and CAM type control systems.

VI. Course Outcomes:

A. Students will maintain a minimum 70% proficiency on the following course outcomes covering CIM terminologies and principles:

15. Define Manufacturing Systems in relations to CIM and the Manufacturing Enterprise
16. Understand Controlling the Enterprise Resources
17. Understand Quality Control Systems
18. Value the Manufacturing Support System

B. Course Objectives/Measures

1. Define Manufacturing Systems in relations to CIM and the Manufacturing Enterprise
   a. Define manufacturing systems
   b. Describe the single and multiple manufacturing cells
   c. Illustrate Group Technology and cellular manufacturing
   d. Define Flexible Manufacturing
   e. Demonstrate manual assembly lines
   f. Complete lab exercises
   g. Section Test

2. Understand controlling the Enterprise Resources
   a. Understand transfer lines and automated manufacturing systems
   b. Illustrate automated assembly systems
   c. Complete lab exercises
   d. Section Test
3. **Understand Quality Control Systems**
   - a. Introductions to Quality Assurance
   - b. Understand SPC
   - c. Value inspection principles and practices
   - d. Define inspection technologies
   - e. Complete lab exercises
   - f. Section Test

4. **Value the Manufacturing Support System**
   - a. Define CAD/CAM
   - b. Understand process planning and concurrent engineering
   - c. Be familiar with production planning and control systems
   - d. Identify with Lean Production and Agile Manufacturing
   - e. Complete lab exercises
   - f. Section Test

VII. **Learning Materials:**


   **Supplies:** The student will need paper, notebook, and pencil. Internet and Library will be used in research paper.

VIII. **Course Requirements and Policies:**

   **Attendance Policy:** It is very important to the success of this class to attend all classes. During the course of the semester, absences will occur. One absence per semester hour is the maximum allowed. The student who exceeds the maximum can be dropped from the course. Extensions for extenuating circumstances may be granted. It is the student’s responsibility to contact the instructor upon return to the class after an absence.

   **Assignments:** Will be determined by the instructor with ample time to complete. **Late assignments will incur a 10% deduction every week late that doesn’t have pre-approval from instructor.**

   **Classroom Behavior policy:** All students are expected to conduct themselves in a pleasant, civil, courteous, and sociable manner at all times in the classroom. Rudeness, bigotry, sarcasm, and/or obscene or abusive language will not be tolerated. Students displaying such behavior will be required to leave class. Any student dismissed from class for such behavior must seek the approval of the Vice Chancellor for Instruction to reenter the classroom. Repeated objectionable behavior or disruption of the class will result in permanent dismissal.

XV. **Learning Assessments:**

   800 points – 8 Lab assignments
600 points – 3 section tests
200 points- Paper
100 points – Class participation

XVI.  Mastery Level:

90% - 100% A, 80% - 89% B, 70% - 79% C, Below 70%  F (after rounding)

Revised 08/21/06
Faith Elliott

Southern Arkansas University Tech
SAU Tech Welding Academy
WA 1005 – Welding Processes
Course Syllabus
Fall 2011

SAU Tech Mission Statement

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SAU Tech Assessment Philosophy

Southern Arkansas University Tech has developed a program to assess the learning outcomes of its students to assure that the college is achieving its mission. The assessment program and course levels as well as within the General Education curriculum for all Associate Degree students. Assessment activities are performed in a number of ways including placement exams prior to enrollment, program level goals and objectives, and classroom assessment techniques. Faculty identifies desired student learning outcomes on the program and classroom level and then assesses through various methodologies how well those outcomes have been achieved. The college uses the data obtained from assessment measures to improve student academic achievement and the instructional methodologies delivered by the institution.

I.  Course name and Number:  Welding Processes WA 1005

II.  Meeting Schedule:  Mon. – Thurs. 8:00 a.m. – 3:00 p.m.

III.  Instructional Information:  Instructor Casey Burns  Phone 870-234-7234 Office: MBITC cburns@sautech.edu
IV. **Prerequisites:** Prior welding course work or welding experience, pretest, or instructors approval

V. **Course description:** WA 1005 – Welding Processes 5 Cr. Hrs. This course will provide welding safety skills and cover the NCCER Core curriculum. Further, students will become proficient in the MIG and FLUXCORE wire welding processes in the position of 1F, 2F, 3F and 4F per American Welding Society specification.

VI. **Course Outcomes:** The student will show a minimum of 75% proficiency on course assessments for the following outcomes:

1. Identify and show proper welding safety skills.
2. Show proper understanding or the core curriculum.
3. Demonstrate proper understanding of equipment and hands on operations.
4. Show proper use of materials and machines to produce welds.

VII. **Outcomes Objectives/measures:**

1. Make Identification and show correct set up and functions of MIG and FLUXCORE welding.
   - MIG process identification
   - MIG operations and set up

2. Identify and show proper safety of MIG and FLUXCORE welding
   - MIG arc ray safety applications
   - MIG power source safety
   - MIG grounding applications and techniques

3. Show proper use of materials to produce welds.
   - Compressed Gas N.O.S. (75% Argon 25% Carbon Dioxide)
   - Diameter wire ER 70S-6

4. Hands on operations
   - Produce welds using MIG and FLUXCORE
   - Produce welds in the following positions 1F, 2F, 3F, and 4F per AWS specification.

VIII. **Textbook and Learning Materials:** NCCER Core curriculum.
IX. Supplies: Pencil or pen and notepad

X. Course requirements and policies: SAU Tech attendance policy and safety policy will be in effect. Students will adhere to strict safety requirements.

   a) Participation will be part of grades

   b) Learning weekly lab exams on weld identification

XI. Assessments:

   a) Class/lab participation

   b) Safety in class and lab

   c) Produce satisfactory welds in various positions

XII. Mastery Level:

   Grades will be assigned according to the following scale:
   A=90-100%
   B=80-89%
   C=70-79%
   D=60-69%

Southern Arkansas University Tech
SAU Tech Welding Academy
WA 1015 - Structural Welding
Course Syllabus
Fall 2011

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prior to enrollment, program level goals and objectives, and classroom assessment

Faculty identifies desired student learning outcomes on the program and classroom
level and then assess through various methodologies how well those outcomes have been
achieved. The college uses the data obtained from assessment measures to improve student
academic achievement and the instructional methodologies delivered by the institution.

I. Course name and number: WA 1015 - Structural Welding

II. Meeting Schedule: Mon-Thurs. 8:00 a.m. – 3:00 p.m.

III. Instructional Information: Instructor: Casey Burns Phone: 870-234-7234 Office: MBITC e-mail: cburns@sautech.edu

IV. Prerequisites: Prior welding Course work or welding experience, Pretest, or Instructors approval.

V. Course description: WA 1015 – Structural Welding; This course will provide students
the skills necessary for structural welding on flat plate steel structures. Training includes
fillet welds and groove welds using the SMAW (stick), and GTAW (tig) processes.

VI. Course Outcomes: The student will show a minimum of 75% proficiency on course
assessments for the following outcomes:

1. Make identification and show correct set up and functions of SMAW (stick), and
   GTAW (tig).
2. Make identification and show correct set up of the track torch.
3. Demonstrate correct set up for fillet welds and groove welds for test plates.
4. Hands on operations.

VII. Outcome Objectives/Measures:

1. Make identifications and show correct set up and functions of SMAW and
   GTAW.
   • SMAW process identification
   • TIG process identification
   • Track torch beveling process identification

2. Identify and show proper safety of SMAW and GTAW set up and operation.
   • SMAW and GTAW arc ray safety applications
   • SMAW and GTAW power source safety
   • SMAW and GTAW grounding applications and techniques

3. Show proper use of materials to produce welds.
   • 6010 electrodes
• 7018 electrodes
• 3/32 TIG wire
• 1/8 TIG wire
• Argon gas applications
• Proper wire feeding techniques

4. Hands on operations
   • Operate SMAW and GTAW for fillet and groove welds in various positions
   • Produce welds and operations with SAFETY

VIII. **Textbook and Learning Materials:** NCCER core curriculum

IX. **Supplies:** Pencil or pen and note pad.

X. **Course Requirements & Policies:** SAU Tech Attendance policy and Safety policy will be in effect. Students will adhere to strict safety requirements.

XI. **Learning Assessments:**
   4. Participation will be part of grades
   5. Weekly lab exams on weld identification
   6. Class/lab participation
   7. Safety in class and lab
   8. Completion of all welds assigned

XII. **Mastery Level:**
Grades will be assigned according to the following scale:
- A = 90 – 100%
- B = 80 – 89%
- C = 70 – 79%
- D = 60 – 69%
- F = Below 60%

Southern Arkansas University Tech
SAU Tech Welding Academy
WA 1025 - Pipe Welding I
Course Syllabus
Fall 2011

SAU Tech Mission Statement
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I. Course name and number: WA 1025 – Pipe Welding I

II. Meeting Schedule: Mon-Thurs. 8:00 a.m. – 3:00 p.m.

III. Instructional Information: Instructor: Casey Burns       Phone: 870-234-7234 Office: MBITC          e-mail: cburns@sautech.edu

IV. Prerequisites: Prior welding Course work or welding experience, Pretest, or Instructors approval.

V. Course description: WA 1025 – Pipe Welding I: This course will provide instruction that gives students opportunity to advance skills previously attained with flat plate to the pipe welding skill sets. The process for welding will include SMAW (stick) on mild steel pipe. Positions will include 2G, 5G, and 6G per American Welding Society specification.

VI. Course Outcomes: The student will show a minimum of 75% proficiency on course assessments for the following out comes:

1. Make identification and show correct set up and functions of SMAW (stick).
2. Identify and show proper safety of SMAW.
3. Show proper use of materials to produce welds.
4. Make identification and show correct set up and functions of the pipe beveling machine.

VII. Outcome Objectives/Measures:

1. Make identification and show correct set up and functions of SMAW (stick) in accordance with 2G, 5G, and 6G positions.
   • Pipe beveling process identification
   • SMAW process identification
   • Proper weld preparation 6in. pipe
2. Identify and show proper safety of SMAW
   • Will be able to adapt to the changes in the electrode angle according to the curvature of the pipe.
   • Will be able to visually define defects in all weld passes.
   • Will be able to correct all defects in weld passes

3. Show proper use of materials to produce welds.
   • 6010 electrodes
   • 7018 electrodes
   • Proper electrode techniques

4. Hands on operations
   • Operate SMAW with the groove weld process in the 2G, 5G, and 6G position.
   • Use proper fit up and preparation on test templates
   • Produce welds and operations with SAFETY

VIII. Textbook and Learning Materials: NCCER core curriculum

IX. Supplies: Pencil or pen and note pad.

X. Course Requirements & Policies: SAU Tech Attendance policy and Safety policy will be in effect. Students will adhere to strict safety requirements.

XI. Learning Assessments:
   9. Participation will be part of grades
   10. Weekly lab exams on weld identification
   11. Class/lab participation
   12. Safety in class and lab
   13. Completion of all welds assigned

XII. Mastery Level:
Grades will be assigned according to the following scale:
   A = 90 – 100%
   B = 80 – 89%
   C = 70 – 79%
   D = 60 – 69%
   F = Below 60%

Southern Arkansas University Tech
SAU Tech Welding Academy
WA 2005 - Pipe Welding II
Course Syllabus
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XII. Course name and number: WA 2005 – Pipe Welding II

XIII. Meeting Schedule: Mon-Thurs. 8:00 a.m. – 3:00 p.m.

XIV. Instructional Information: Instructor: Casey Burns Phone: 870-234-7234 Office: MBITC e-mail: cburns@sautech.edu

XV. Prerequisites: Prior welding Course work or welding experience, Pretest, or Instructors approval.

XVI. Course description: WA 2005 – Pipe Welding II; This course advances pipe welding skills into the materials of stainless and includes the process of TIG in the positions of 2G, 5G, and 6G.

XVII. Course Outcome: The student will show a minimum of 75% proficiency on course assessments for the following out comes:

1. Make identification and show correct set up and functions of GTAW
2. Make identification and show correct set up and functions of plasma cutting.
3. Demonstrate correct procedures and operations of beveling with the plasma cutter.
4. Show proper use of materials to produce welds on stainless steal.
5. Hands on operations.
XVIII. Outcome Objectives/Measures:

1. Make identification and show correct set up and functions of TIG, and Plasma cutting
   - TIG process identification
   - Plasma cutting process identification
   - TIG operations and set up
   - Plasma cutting operations and set up

2. Identify and show proper safety of TIG, and plasma cutting
   - TIG arc ray safety applications
   - TIG power source safety
   - TIG grounding applications and techniques
   - Plasma cutting safety applications and techniques

3. Show proper use of materials to produce welds.
   - 3/32 TIG wire
   - 1/8 TIG wire
   - Stainless steel and carbon wire
   - Proper wire feeding techniques
   - Argon gas applications

4. Demonstrate correct set up and operations of plasma cutter.
   - Air pressures for cutting
   - Tips and cones for stainless steel
   - Tips and cones for carbon
   - Gauge settings and heat ranges

5. Hands on operations
   - Operate plasma cutter to cut carbon, stainless steel
   - Operate TIG on stainless steel, and carbon
   - Produce welds in 2G, 5G, and 6G on all listed materials
   - Produce welds and operations with SAFETY

XIX. Textbook and Learning Materials: NCCER core curriculum

XX. Supplies: Pencil or pen and note pad.

XXI. Course Requirements & Policies: SAU Tech Attendance policy and Safety policy will be in effect. Students will adhere to strict safety requirements.

XXII. Learning Assessments:

14. Participation will be part of grades
15. Weekly lab exams on weld identification
16. Class/lab participation
17. Safety in class and lab
18. Completion of all welds assigned

XII. **Mastery Level:**
Grades will be assigned according to the following scale:
- A = 90 – 100%
- B = 80 – 89%
- C = 70 – 79%
- D = 60 – 69%
- F = Below 60%

Southern Arkansas University Tech
SAU Tech Welding Academy
WA 2015 - Hi Freq TIG and Pipeline Welding
Course Syllabus
Spring 2012

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XXIII. **Course name and number:** WA 2015 - Hi Freq TIG and Pipeline Welding

XXIV. **Meeting Schedule:** Mon-Thurs. 8:00 a.m. – 3:00 p.m.

XXV. **Instructional Information:**
- Instructor: Casey Burns
- Phone: 870-234-7234
- Office: MBITC
- e-mail: cburns@sautech.edu

XXVI. **Prerequisites:** Prior welding Course work or welding experience, Pretest, or Instructors approval.
XXVII. **Course description:** WA 2015 - Hi Freq TIG and Pipeline Welding; This course focuses on key information and skills for welding with Aluminum materials using the Hi Frequency TIG method. Positions will include fillet welds in positions of 1F, 2F, and 3F per American Welding Society specification. Further, this course will give students training in the specialized process of pipeline welding (typically downhill travel). Position for this method of pipeline welding will include 5G only, per American Welding Society specification.

XXVIII. **Course Outcome:** The student will show a minimum of 75% proficiency on course assessments for the following out comes:

1. Make identification and show correct set up and functions of Hi Freq TIG and Pipeline welding.
2. Identify and show proper safety of Hi Freq TIG and Pipeline Welding.
3. Show proper use of materials to produce welds
4. Hands on operations.
5. Students will demonstrate the proper technique of welding pipeline

XXIX. **Outcome Objectives/Measures:**

1. Make identification and show correct set up and functions of Hi Freq TIG and Pipeline welding.
   - Hi Freq TIG identification
   - Plasma cutting process identification
   - Hi Freq TIG operations and set up
   - Plasma cutter operations and set up
   - Pipeline welding operations and set up
2. Identify and show proper safety of Hi Freq TIG and Pipeline Welding
   - Hi Freq TIG arc ray safety applications
   - Hi Freq TIG power source safety
   - Hi Freq TIG grounding applications and techniques
   - Heli-arc aluminum applications and techniques
   - Heli-arc UV protection techniques
   - Plasma cutting safety applications and techniques
3. Show proper use of materials to produce welds.
   - 3/32 TIG wire
   - 1/8 TIG wire
   - Aluminum and carbon wire
   - Proper wire feeding techniques
   - Stainless steel brushes for aluminum
   - Argon gas applications
   - Torch head assembly and hoses for TIG and Heli-arc applications
4. Demonstrate correct set up and operations of plasma cutter.
   - Air pressures for cutting
   - Tips and cones for carbon
   - Tips and cones for aluminum
   - Gauge settings and heat ranges

5. Hands on operations
   - Operate plasma cutter to cut carbon, and aluminum
   - Operate Hi Freq TIG on aluminum, and carbon
   - Produce welds and operations with SAFETY

XXX. **Textbook and Learning Materials:** NCCER core curriculum

XXXI. **Supplies:** Pencil or pen and note pad.

XXXII. **Course Requirements & Policies:** SAU Tech Attendance policy and Safety policy will be in effect. Students will adhere to strict safety requirements.

XXXIII. **Learning Assessments:**
   19. Participation will be part of grades
   20. Weekly lab exams on weld identification
   21. Class/lab participation
   22. Safety in class and lab
   23. Completion of all welds assigned

XII. **Mastery Level:**
Grades will be assigned according to the following scale:
   A = 90 – 100%
   B = 80 – 89%
   C = 70 – 79%
   D = 60 – 69%
   F = Below 60%

Southern Arkansas University Tech  
SAU Tech Welding Academy  
WA 2025 - Capstone  
Course Syllabus  
Spring 2012

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XXXIV. Course name and number: WA 2025 - Capstone

XXXV. Meeting Schedule: Mon-Thurs. 8:00 a.m. – 3:00 p.m.

XXXVI. Instructional Information: Instructor: Casey Burns Phone: 870-234-7234 Office: MBITC e-mail: cburns@sautech.edu

XXXVII. Prerequisites: Prior welding Course work or welding experience, Pretest, or Instructors approval.

XXXVIII. Course description: WA 2025 – Capstone; This course addresses the overall skill sets acquired throughout the training, allowing a collective review of GTAW and SMAW weld processes in the 2G, 5G, and 6G positions per American Welding Society specification. Students will also be provided training in proper resume writing and interview processes with staged interviews with prospective employers. Certification is required for stick, TIG, and MIG welding as a requirement using AWS standards for this course.

XXXIX. Course Outcome: The student will show a minimum of 75% proficiency on course assessments for the following outcomes:

1. Identify and show proper welding safety skills.
   • Show proper understanding or the core curriculum.
   • Demonstrate proper understanding of equipment and hands on operations.
   • Show proper use of materials and machines to produce welds.
   • Make identification and show correct set up and functions of SMAW (stick), and GTAW (tig).
   • Make identification and show correct set up of the track torch.
   • Demonstrate correct set up for fillet welds and groove welds for test plates.
2. Make identification and show correct set up and functions of SMAW (stick).
3. Identify and show proper safety of SMAW.
4. Show proper use of materials to produce welds.
5. Make identification and show correct set up and functions of the pipe beveling machine.
   • Make identification and show correct set up and functions of the 2G, 5G, and 6G welding procedures.
6. Make identification and show correct set up and functions of GTAW
7. Make identification and show correct set up and functions of plasma cutting.
8. Demonstrate correct procedures and operations of beveling with the plasma cutter.
9. Show proper use of materials to produce welds on stainless steal.
   • Make identification and show correct set up and functions of Hi Freq TIG and Pipeline Welding.
   • Identify and show proper safety of Hi Freq TIG and Pipeline Welding.
   • Show proper use of materials to produce welds
   • Students will demonstrate the proper technique of welding pipeline
   • Hands on operations

XL. Outcome Objectives/Measures:
   1. During this final course there will be a bend test on one MIG, GTAW, and SMAW procedure.
   2. There will be a certification on all three of the processes mentioned above.

XLI. Textbook and Learning Materials: NCCER core curriculum

XLII. Supplies: Pencil or pen and note pad.

XLIII. Course Requirements & Policies: SAU Tech Attendance policy and Safety policy will be in effect. Students will adhere to strict safety requirements.

XLIV. Learning Assessments:
   24. Participation will be part of grades
   25. Weekly lab exams on weld identification
   26. Class/lab participation
   27. Safety in class and lab
   28. Completion of all welds assigned

XII. Mastery Level:
      Grades will be assigned according to the following scale:
      A = 90 – 100%
      B = 80 – 89%
      C = 70 – 79%
      D = 60 – 69%
      F = Below 60%
APPENDIX C
General Technology Full-Time Faculty Vita

Douglas E. Horton, Jr.
2543 Highway 79 South
Camden, Arkansas 71701
Phone: 870-836-4326

OBJECTIVE:
To obtain a challenging and rewarding position which will enable me to utilize my 21 years of experience in the Industrial General Mechanic/Maintenance Planner fields.

EXPERIENCE:
1991-2001
Adjunct Instructor at Southern Arkansas University:
(Mechanical Devices, Basic Welding and Advanced Welding and Maintenance Management)
International Paper Co., Camden, Arkansas
General Mechanic/Maintenance Planner
Responsibilities Included: Maintaining and repairing equipment, preventative maintenance on various preventative maintenance routes, maintenance planner duties, coordinating maintenance jobs and duties with fellow employees.

Key Achievements:
> Chairman of BC/BS employees insurance committee
> Advanced from Journeyman I to Journeyman IV – 1991/1992
> Championed Hourly Gallup Survey
> Championed Gallup Results with Hourly Workforce
> Completed Results Training in Communication
> Temporary Maintenance Planner 1999 to 2001
> Team Member Recipient of Five Million Man Hour Award

1986-1991
LTV – Missiles and Electronics, Camden, Arkansas
Maintenance Technician/Foreman
Responsibilities Included: Maintained equipment, worked with production operators on processes, troubleshooter for engineering and production, foreman over maintenance.

Key Achievements:
> Received Safety and Attendance awards
> Suggestion Plan Leader
> Familiar with M-3, H-104, H-106, Metal Parts and outlying facilities

TRAINING:
LICENSES AND/OR CERTIFICATES
Basic Welding – 63 Hours
Industrial Fire Training – 16 Hours
Industrial Blueprint Reading – 16 Hours
Industrial Basic Linear Measurement – 16 Hours
Self Governance Training – 40 Hours
Interaction Management – 40 Hours
Industrial Pneumatic Technology – 20 Hours
Industrial Hydraulic – 20 Hours
AS/600 IBM – 10 Hours
Certified Tow Motor and Genie Boom Operator
HVAC Universal License

TECHNICAL SKILLS:
- Optical Alignment on pumps/motors
- Optical Alignment instructor
- Pipefitting skills
- ZES (Zero Energy State) skilled
- Helix Arc Training
- Stainless Steel Tig Training
- Skilled Torch Operator with proper ignition training
- Maintenance Planner Duties
- Scheduling, computers, orders, communication skills
- Excellent Millwright skills
- Troubleshooter on various production problems
- Use of all types hand tools and power tools

EDUCATION:
- Presently attending Southern Arkansas University Tech
  Camden, Arkansas
- Seeking Degree in Industrial Technology
- Completed General Technology 04/23/02
- 1983 Graduate of Southern Arkansas University Tech
  Camden, Arkansas
  Degree: Associate of Science in Business Administration
- 1989 Graduate of Oil Belt Vo-Tech
  El Dorado, Arkansas
  Degree: Welding
- 1980 Graduate of Camden High School
  Camden, Arkansas
Casey Burns
P.O. Box 1
Willisville, AR 71864
(870)-871-8203

OBJECTIVE To obtain a position as a Welding Certification Technology Instructor.

EDUCATION 2001-2002 Tulsa Welding School
2009 University of Arkansas Community College at Hope
AWS Certified 3G4G
SMAW E7018 w/o backing

WORK EXPERIENCE Industrial Maintenance Technician 2002-2009
Alcoa Extrusions (Sapa)
Performed welding, mechanical, and electrical repairs on all machines and equipment in the plant.

Welder 2002-2005
Spencer-Harris of Arkansas, Inc.
Performed any and all welding duties as required.
Instructed employees on welding code certifications and fabrication techniques.

REFERENCES Danny Jarvis, Supervisor
Alcoa Extrusions (Sapa)
(870)-234-4260 ext. 2751

Spencer Black, Supervisor
Spencer-Harris of Arkansas, Inc.
(870)-234-3264

Michael Elliott, Vice-President, Q.C. Manager
Spencer-Harris of Ark. Inc.
(870)-234-3264
I. Review of Program Goals, Objectives and Activities

A. Are the intended educational (learning) goals for the program appropriate and assessed?

Yes- The goals outlined in the program are very clear and concise. It is made clear that the participants have the choice to choose their areas of expertise and what areas fit their personal career goals. The goals are stated as part of the overall goals and objectives of the technology program. Specific objectives for the program are stated in the course objectives listed in the syllabus for each class. The objectives are measured by tests which measure the degree of mastery each student has achieved.

B. How are the faculty and students accomplishing the program’s goals and objectives?

In the industrial maintenance, engineering, and welding programs the goals are achieved by preparing students for the work place by using best practices of the industry. While it appears the goals and objectives for the program are being achieved through the coursework of the classes being offered, it is our opinion that the means by which goal achievement is measured is somewhat vague. The goals are clear, but how these goals are accomplished needs to be clearer.
C. How is the program meeting market/industry demands and/or preparing students for advanced study?
It is evident that the programs are designed for local need. Many regional employers are listed and it appears that the program has been designed with these “end users” in mind. This is very appealing.

The demand for highly skilled workers is being met by offering courses directly related to the skills needed and the course objectives are specific to the development of skills needed in industry. The opportunity for the development of advanced skills are provided through advanced level and capstone courses where mastery of skills to industry standards are required to be successful in completing the program.

D. Is there sufficient student demand for the program?
It is evident in the Department of Labor statistics that there is a demand for the type of workers the general technology programs prepare and with the training provided is needed. With the industrial maintenance program holding the largest enrollment of the college, it is safe to say that the program is justified. The enrollment for the welding program, since its beginning, has been full to maximum capacity, so much so that an additional section of courses has had to be added to accommodate the number of students wanting into the program. The newly redesigned engineering technology program has grown steadily the first two years it has been offered.

E. Do course enrollments and program graduation/completion rates justify the required resources?
The enrollment rates do justify the required resources. Graduation/completion rates were provided and appeared to justify the program as well. Welding is a high cost program. Supplies for a welding program operating two sets of classes require a substantial amount of funding to purchase the needed supplies; however, this is a stand-alone budgeted program and the fee structure seems more than adequate to meet the program needs.

II. Review of Program Curriculum

A. Is the program curriculum appropriate to meet current and future market/industry needs and/or to prepare students for advanced study?
It appears that the current annual review procedures are adequate and will insure current and future needs. Local advisory councils are in place to make sure the programs are moving in the right direction. The use of NCCER curriculum in both the industrial maintenance and welding programs will also ensure that current and future trends in the industry are kept in mind.

The objectives in the program courses specify the skills that each student needs to master. Upon mastery of those skills, the students then would be able to gain entry level employment in the field or to continue to study and advance in their educational training to develop skills that would enable them to obtain employment in advanced level position with a higher pay level.
B. Are institutional policies and procedures appropriate to keep the program curriculum current to meet industry standards?
The use of advisory councils, made up of industry personnel, provide input into the programs and specify the needed changes that should occur to keep up with changes within the industry. The courses taught lead to multiple industry recognized certifications and credentials. Course work is also available within the curriculum to allow students to achieve their AAS degree. Courses are added to the curriculum, as needed, to keep the curriculum aligned to meet industry requirements.

As stated above the NCCER curriculum is designed by the industry for the industry. The procedures and review panels that they have in place will ensure the curriculum is current. The local council will also do this for a local industrial need.

C. Are program exit requirements appropriate?
The exit requirements are sufficient and appropriate. The programs require students through capstone courses and/or internships to demonstrate skill levels suitable to gain employment in entry level positions or to enter advanced level training.

D. Does the program contain evidence of good breath/focus and currency, including consistency with good practice?
By the content within the syllabi, yes, this program is consistent with best practices.

E. Are students introduced to experiences within the workplace and introduced to professionals in the field?
The industrial maintenance program includes an internship experience for students in their final semester. In the welding program, students are provided opportunities to have hands on experience equal to what is done in industry, through class assignments and projects. Local employers are invited as class speakers during the year in each program. Contact with industry professionals are made through job placement activities. Overall we see this as an area for improvement. Controlled “on the job” experiences in the welding and engineering programs could enhance the learning experience for the students.

F. Does the program promote and support interdisciplinary initiatives?
With the variety of programs available and the “areas of exposure” within the industrial maintenance program interdisciplinary initiatives are available. Students have the opportunity to explore multi-discipline experiences beyond their immediate field. Students have the opportunity to obtain OSHA training and NCCER Core Curriculum Certification in both the maintenance and welding programs. The engineering program has several interdisciplinary crossover courses with the maintenance program such as safety, blueprint reading, and PLC.

G. Does the program provide respect and understanding for cultural diversity as evidenced in the curriculum, in program activities, in assignment of program
responsibly and duties; in honors, awards and scholarship recognition; in recruitment?

No documentation in this self-study was found to address the issue of cultural diversity. The college’s statement of values fully supports and recognizes cultural diversity so we have no reason to believe that is does not exist.

III. Review of Academic Support

A. **Does the program provide appropriate quality and quantity of academic advising and mentoring of students?**

Academic advising and mentoring of students is conducted in a variety of ways. Faculty participate in recruitment and advising by visiting with high school students during special recruiting days each year. Students are allowed to visit the program and are introduced to the environments of the program and program requirements and expectations are explained. Also, full time recruiting personnel are on staff for the purpose of recruiting students throughout the year. Through the information provided within the syllabus, it is our opinion that adequate mentoring opportunities are provided and the academic advising will come naturally with the instructor’s qualifications.

B. **Does the program provide for retention of qualified students from term to term and support student progress toward and achievement of graduation?**

Retention efforts include early alert programs, which help to keep a student on track towards completion of the program. Also, mentoring and tutoring programs are in place to assist students who are struggling with course demands. The program allows for students to continue their education through parallel and advanced courses. The natural flow of the courses would seem to appeal to continuing ones education within the single program.

IV. Review of Program Faculty

A. **Does program faculty have appropriate academic credentials and/or professional licensure/certification?**

Yes, the faculties facilitating the general technology programs are more than qualified to oversee the programs. The industrial maintenance and welding programs have instructors on staff that have the industry credentials necessary to provide competent delivery of course content. The welding program also has an AWS Certified Welding Inspector on staff. Although adjunct faculty are used in the engineering program, they have more than adequate credentials from industry-related experience to deliver the program curriculum.

B. **Are the faculty orientation and faculty evaluation processes appropriate?**

Yes, it appears that the process of both orientation and evaluation are appropriate. Faculty orientation is a thorough process whereby new employees are introduced to the expectations of the institution, the departmental goals, policies and procedures, and traditional ways things are done. The human resource office is responsible for the completion of all
necessary paperwork to make sure the hiring process is complete. New employees are evaluated intensively by their supervisor as well as the Vice Chancellor of the institution. Self-evaluations are also part of the employee evaluation process. Student evaluations are integrated into the evaluation process by evaluating each instructor through course evaluations. After two years of employment, employees are continually evaluated through student evaluations.

C. *Is the faculty workload in keeping with best practices?*

The faculty for the industrial maintenance program generally has a higher than normal overload. However, this is no doubt a reflection of the size of the program. The college may wish to review the necessity of adding a faculty member to the program. The welding program has a normal workload during the day and an overload course schedule for evening classes, which is within the allowable limits of the institution. A number of adjunct faculty teach in the engineering technology program and do not carry more than the normal two course load.

V. *Review of Program Resources*

A. *Is there an appropriate level of institutional support for program operation?*

It appears that the institutional support level is adequate. The 5 year plan also seems realistic for maintaining and supporting the program. The programs have their own budget and seem to be appropriately funded. As a self-supported program, all program fees remain in the welding program to support equipment purchases. A rolling fund has adequate resources to provide for program growth and upgrades.

B. *Are faculty, library, professional development and other program resources sufficient?*

Funds are available for professional development which allows faculty the opportunity to receive up to date training in their area of instruction. Funds are available for the use of and expansion of library resources for each program.

VI. *Review of Program Effectiveness*

A. *Indicate areas of program strength.*

Program strengths are:

- Use of an industry based curriculum
- Relationship with local industry
- Variety of subject areas within one program
- Qualified and certified faculty
- Local, regional, and national demand for highly skilled maintenance workers, welders, and engineers.
- Good student enrollment each year
- Very adequate budget for materials & supplies

B. *Indicate the program areas in need of improvement within the next 12 months; and over the next 2-5 years.*
We would like to see a plan for continuation of professional development for the instructors. We also believe it would be worthwhile to have more “on the job” training opportunities for the students. We would also recommend incorporation of the NCCER level 1 and 2 welding curriculum in the welding program. Within the next five years, the welding facility needs to be expanded to accommodate the demand for enrollment into the program and to train more students each year to meet industry demand. An additional instructor would be needed to maintain an acceptable and safe student/teacher ratio in the industrial maintenance and welding programs.

C. Indicate areas for program development based on market/industry demands that have not been identified by the institution.
For the welding program: inspection principals, visual inspection, destructive weld testing, non-destructive weld testing, including Liquid penetrant inspection and magnetic particle inspection should be incorporated into the program. This may require the instructor to acquire additional training which would be a good opportunity for staff development and updating his/her competency plan.

VII. Review of Instruction by Distance Technology (if program courses offered by distance)

A. Are the program distance technology courses offered/delivered in accordance with best practices?
No distance learning opportunities, other than general education courses, are offered by the industrial maintenance or welding programs. Several courses are in the process of being developed for on-line delivery in the engineering technology program. At the time of this review, no program-level coursework is being offered by distance learning.

B. Does the institution have appropriate procedures in place to assure the security of personal information?
This was not addressed in the self-study report.

C. Are technology support services appropriate for students enrolled in and faculty teaching courses/programs utilizing technology?
Technological support for internet-based general education courses seems to be adequate. Other technological support services were not addressed in the self-study report.

D. Are policies for student/faculty ratio, and faculty course load in accordance with best practices?
The institution seems to follow recommended accreditation agency and college standards and policies.

E. Are policies on intellectual property in accordance with best practices?
This was not addressed in the self-study report.
VIII. Review of Program Research and Service

A. Are the intended research and creative outcomes for each program appropriate, assessed and results utilized?
The outcomes are clearly stated within the syllabi. The NCCER program allows for clear assessment and has a retesting procedure in place. Research is not conducted within the general technology programs.

B. Are the intended outreach/service/entrepreneurial outcomes for each program’s initiatives appropriate assessed and results utilized?
There are no outreach/service/entrepreneurial outcomes for the general technology programs.

IX. Local Reviewer Comments

A. How is the program meeting market/industry demands and/or preparing students for advanced study?
As stated before, the need for qualified/certified industrial workers is evident in both the department of labor statistics and the feedback gathered from local businesses and industry. There is no indication that this need will change within the next 5 years.

The Welding program at SAU Tech. is a relatively new program, less than five years old and currently growing due to the high demand for skilled welders in industry. The goals and objectives of the program are to provide adequate training to students for the development of necessary skills needed to gain employment in the welding industry.

The curriculum for the programs is relatively comparable to other institutions general technology programs for maintenance and engineering. Courses taught start with the basic concepts and continue through advanced levels.

The programs are fortunate to have a support staff and resources available to provide for materials and supplies needed to conduct classes as well as for staff development and training of faculty members.

B. What program modifications are needed?
The growth rate has increased the need to offer additional sections of classes at alternative times as well as to recognize the need to expand and increase the size of the facility to provide adequate space for larger classes. The inclusion of a cutting processes class would enhance the program. This course should include the use of Oxy-fuel cutting and welding processes, Plasma Arc Cutting operations, and the use of cutting and shearing machines. Also, as part of the current welding processes classes, Air Carbon Arc cutting and gouging should be incorporated into the classes. Since the program already is using some NCCER curriculum, we would recommend that the level 1 and Level 2 welding texts be used with the program.
Additional opportunities exist for students to obtain other certifications beyond college credentials, but related to work in industry which are usually required by many employers within industry, in all disciplines. Examples are the NCCER Core curriculum, OSHA training and fork truck operation. As the programs continue and improve, additional courses, certifications, or NCCER curriculum should be added to meet industry training needs.

X. Report Summary

A. Include reviewer comments on the overall need for program graduates/completers in the local area, region and/or nation over the next 5 years.

As stated before, the need for qualified/certified industrial workers is evident in both the department of labor statistics and the feedback gathered from local businesses and industry. There is no indication that this need will change within the next 5 years. The demand for welders has remained steady in the United States, even throughout the recent economic downturn. It is expected that this demand will remain constant or even grow over the next five years, especially if the economy begins to recover to pre-recession levels of activity.

B. Include reviewer comments on overall program quality, state program review process, etc.

It is our opinion that as a whole the three emphasis programs under general technology are running at a high quality. The local and industrial need is present. The student enrollment, completion, and job placement is ideal. The curriculum is designed for the industry by the industry and maintained by local and national committees. The faculty is more than qualified. We believe that this review process is a major component of keeping the program where it needs to be.

Academic Program Review
General Technology Program
Institutional Response to External and Local Review

Southern Arkansas University Tech is pleased with the findings of the local area expert reviewer and the out-of-state expert reviewer for the academic program self-study of the General Technology program, emphasis areas, technical certificates, and certificate of proficiency programs.

The College concurs with the primary areas of concern voiced by the reviewers:

- Increase “on-the-job” learning experiences for students in the welding and engineering technology programs.
- Develop a written cultural diversity statement
- Consider an additional faculty member in the industrial maintenance program
- Expand the welding program facilities to meet student demand
Currently, the industrial maintenance program includes an internship practicum during the final semester of coursework. This is a semester-long internship experience that has proven valuable to the program. Developing an “on-the-job” training program for the engineering technology program has proven more difficult due to the rules imposed by the defense industries which requested and helped to develop the engineering program. Internship programs are not allowed under Department of Defense rules in government contracted industries. Welding Academy students are in class 8 hours a day, four days a week, for nine months. The curriculum of the academy allows students to obtain relevant “real world” experiences.

The College has a written cultural diversity statement, processes, and policies related to recruitment of both faculty and students. In addition, the College abides by the relevant federal policies related to disabilities and minorities. While a written cultural diversity statement does not exist for each individual academic program, each program is expected to abide by the relevant College, state, and federal laws and policies. In addition, the College’s General Education Competencies include an outcome related to global and cultural diversity that is taught within the 15 hours of general education coursework in the degree program.

The College recognizes the need for an additional faculty member in the industrial maintenance program. However, current budget cuts have placed a freeze on new hires. A faculty slot for the IM program is second in line of priority behind a needed science faculty member. These slots will be filled as funds become available in future fiscal years.

The welding program occupies space in the Magnolia Business and Industry Technology Center in the Harvey Couch Business Park in Magnolia. The facility is shared with the SAU Tech Career Academy welding program for Magnolia High School. The College recognizes that the size of the welding program will be limited in the current facility. However, expansion or the current facility (which is owned by the Magnolia Economic Development Corporation) or the move to another facility is not fiscal possible under the College’s current budget situation.

The College challenges the following area of concern voiced by the reviewers:

- Develop a written process for the measurement of learning goals and objectives

The College has an academic assessment plan for all programs which measures academic goals and objectives on the course and program level, as well as a program strategic plan for each program. Annual reports are made for all outcomes, goals, and objectives for both plans. The Planning, Assessment, and Development Office is responsible for collection and dissemination of assessment and strategic plan data. Program and curricular adjustments are made based on data from these plans.

SAU Tech is pleased with the overall review of the program by the local and external reviewer, as well as the state of the program as revealed by the College’s internal self-study.