SELF STUDY

SECTION THREE

Includes individual program assessments for Undergraduate, Certificate and Concurrent Enrollement programs at Utah State University- Eastern.
# Table of Contents

Automotive Technology ................................................................. 1  
Business ......................................................................................... 8  
Cosmetology .................................................................................. 31  
Diesel and Heavy Equipment Mechanics ....................................... 41  
Engineering Drafting and Design & Machine Tool Technology .......... 95  
Heavy Equipment and Trucking ....................................................... 121  
Welding ......................................................................................... 128
College of Agriculture and Applied Sciences
School of Applied Sciences, Technology and Education (ASTE)
Utah State University Eastern

Assessment Plan

For the Undergraduate Program in Automotive Technology

Fall 2013
Departmental Profile

Overview

Automotive Technology prepares students who are inclined to a hands on active profession. We provide training to help students begin a career in automotive and related fields which include:

- Automotive technician general service
- Parts professional
- Service writer
- Tire service— including federally mandated tire pressure monitoring systems
- Brake specialist – including antilock brake and traction control systems
- Engine repair
- Automatic Transmission diagnosis and repair
- Manual transmission, differential and clutch repair
- Electrical systems
- Suspension and alignment
- Heating and Air Conditioning systems
- Engine performance including computer controlled systems and alternative fuel systems

Assessment methods

End of program testing includes the following:

*Hands on testing* at the college level is done with the help of our advisory committee. We feel that those who provide employment for our students have an expectation for new hires. Advisory committee members proctor and score timed hands-on skills in the areas covered. This participation enables us to ensure that we are providing skill-sets that lead to employment for our students.

Following the hands-on assessment we have a brief meeting with our industry partners. We discuss areas that we can improve to better prepare students with job skills our industry expects and demands for employment.

*Written testing* includes the nationally recognized “Automotive Service Excellence” (ASE). This test gives us the opportunity to compare our student test scores against a nationwide audience using a test we cannot write, review, or teach to.

The results will identify areas that need improvement in instruction as well as overall placement nationally. For example, in Fall 2013, our composite class test score placed the entire class in the top 15% nationally, with four students in the top 1% in the nation. Our test scores consistently place us in the top 20% nationally.
After receiving test results we are able to review areas where our test scores were lower than expected. We use the results to plan improved methods of instruction to correct areas of concern.

**Program support**

Support can be demonstrated from the participation of business partners in our PAC / advisory committee for planning and assessment. The automotive community is also willing to help when we prepare to compete against other schools. For example, in 2013 our student participated in a contest supported by Ford and AAA. Our students placed among the top schools in the state. To prepare for the next step we needed access to a new 2013 vehicle and the local Ford dealer willingly provided a brand new vehicle for three days so students could prepare.

**Students**

Automotive student statistics do not fit graduation and completion criteria used in calculating student retention and graduation rates. We may have up to 50% of our students coming from industry with the specific goal of learning more about a specific area to improve pay, promotion, or better their employment. See enrollment data in Table 1.

For example, each year we will have students who plan to improve in one area. An employee may be offered a raise if they learn DC electrical troubleshooting, so they take one semester of classes which will help them make more money and be done.

This group (in my opinion) should be considered “completers” because they complete the area of interest. It appears that the more we help our local community with job skills the worse we look for graduation and completion rates.

I do not have data to support salary, but in talking to former students the average would be about $45,000.00 per year with some making over $90,000.00 and others less – depending on their specialty. A person specializing in computer control systems is going to make more than the person who works in a tire store.

One great advantage our students have is that they can find employment in an area that fits their ability. Automotive technology provides a wide range of job opportunities.
Table 1: Enrollment in Automotive Technology.

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</table>

**Strategic Planning**

The automotive program provides valuable training for those who prefer to work with their hands.

We strive to provide a program of excellence that is recognized nationally for student achievements.
Demonstration of this goal can be seen in recognition and awards.

1. The college program was recognized nationally by the IPC “Industry Planning Council” as one of the top three (non-manufacturer supported) programs in the nation. We have been recognized numerous times as the top automotive training program in Utah. We have received donations from Honda, Chrysler, Ford, Snap On, and others. Donations include vehicles, equipment, manuals, etc. valued at over $250,000.00.

2. The program in Emery taught by Mike Kava have been recognized as one of the top programs in the region by “Weber State University” nine of the past thirteen years. The Emery students placed “First” in the automotive contest sponsored by “SUU” four years in a row.

3. Recently his students participated in a new category of testing offered by ASE called “Light Maintenance Repair” with 60% of the students receiving certification. Many of the Emery high school students attend USU Eastern to complete their training in either Automotive or Diesel programs.

USU Eastern’s automotive program is recognized by ASE as a “Master” training program with all instructors certified to teach all eight areas of proficiency as determined by the national NATEF “National Automotive Technician Education Foundation” and ASE.

NATEF requires hours of training and coverage of skill sets as determined by the national group consisting of manufacturers, independent professionals, and engineers.

Our instructors have been voted by their peers to serve on national and international boards including NACAT “North American Council of Automotive Teachers” as well as trustee for the NACAT foundation. We have served as president for the state group of automotive instructors. ASE advisory board to review questions and required tasks.

Our instructors are recognized as industry leaders in automotive education. Currently we are part of a select group of ETL’s “Evaluation Team Leaders” –where we work with industry professionals to review automotive training programs for national recognition and certification as meeting a national standard.

We have hosted the summer automotive training for ALL automotive instructors in the state twice. We have given presentations at state conferences, and provided training for high school automotive instructors in our area.

Currently, we have great strength in teaching basic theory and operating principles, however with the emergence of hybrid vehicles, our training is beginning to fall behind.
Most of the advanced training we need to build curriculum and improve in these areas require week long classes (or longer) outside our state. It is discouraging to see that our funding is generally limited to $500.00 by the university. Even with matching funds from the department we do not have necessary funding to attend and update our skills.

This gap in emerging technology and existing skill sets will become more critical as time goes on and the operating systems of vehicles change. We can read and participate in online training, but the necessary hands on skills we need require in person participation before we can teach students.

Performance goals are to achieve an average pass rate on nationally standardized tests of 90%. We plan to continue with the ASE testing. This enables us to adapt and change as the industry changes.

**One year plan**

We are working with the local high school to meet their schedule and changing our class times to improve articulation and student recruitment. Our area high schools are feeder programs to help us maintain student numbers. Our introductory class is designed to provide a fairly seamless transition for students from high school to university.

Todd Richardson is responsible to coordinate schedules between Carbon school district and USU Eastern. Mike Kava is responsible to coordinate schedules between Emery school district and USU Eastern. Stan Martineau coordinates articulation agreements for the automotive program with Emery, Grand, and San Juan school districts.

In addition, we provide a two-day training seminar at the San Juan campus for southern Utah high school students and instructors. We have seen success with students who attend. Guy Denton from the San Juan campus indicates that bringing students on campus helps with recruiting. He has indicated that even if students do not sign up for Automotive Technology on the Eastern campus, many do sign up and attend at San Juan.

We feel that any time we can bring students on campus and have a good experience is a good thing, even if they do not directly enroll in our program.

**Five Year Plan**

We would like to add classes on Hybrids, CNG systems, TPMS systems, and advanced electronic systems i.e traction control, all-wheel drive systems.
It would be advantageous to team with Electronics for an advanced certificate in addition to the AAS degree in electronic troubleshooting.

The challenges we face include a limited number of credits (and time) that we can require. What do we drop to add something new? How will that affect student employment, expectation, graduation rates, and pay? What expectations do our business partners have now compared to expectations in five years? What are the trends in automotive engineering, repair and technology?

The changes suggested will require funding for all staff to attend comprehensive training. Added instruction requires qualified, trained, instructors to enable a smooth transition in our curriculum and required coursework.

**Summary**

In the past our pass rate on national tests were not as high as we would like, we have used the reports to change curriculum, better prepare demonstrations and plan hands on skills.

In the past we were not certified as a master program. It has taken hours of curriculum development, program reviews, and changing graduation requirements to meet the national criteria. We have also worked to become a national ASE automotive test center for professional technicians. We hope to continue to improve as we move forward.
College of Agriculture and Applied Sciences

School of Applied Sciences, Technology and Education (ASTE)

Utah State University Eastern

Assessment Plan

For the Undergraduate Program in Business

Fall 2013
Department Profile

Mission Statement:

The USU Eastern Business Department is a multi-disciplinary department (Business, Marketing, Accounting, Digital Media, Web Business, and Business Information Systems) committed to providing a sound base of business knowledge and up-to-date business, economic, and computer training. We recognize the needs of those who are preparing for further study, as well as those who want immediate skills, certifications, or degrees for a business career. Through the integration of these business disciplines and broad knowledge areas, we install the curiosity and skills necessary for lifelong learning, financial competency, and service to society.

Departmental Vision

USU Eastern has a published mission to “prepare the people who create and sustain our region.” The business program accepts its role in that mission and in the accompanying challenge and motto of “Transforming Lives.” This is a noble albeit challenging goal since Eastern serves a population base that covers the largest single geographic region in the state, contains towns below 10,000 residents, is less than half the state average for the number of residents with a baccalaureate degree, and whose residents have income levels well below the state average, with one county listed as the poorest in the state.

The population we serve varies greatly in academic preparation, immediate educational needs, and long-term goals. In general, as we seek to support the overall mission of the college, we have identified four specific populations served by the business program:

- Students who lack appropriate academic or life-skills to succeed in college
- Students who do not want to complete a four-year degree but do want short-term training that provides specific, job-related skills
- Employees at local businesses who want short-term, customized training to start a new business, update current job skills, or prepare for enhanced employment
- Students who want to complete a baccalaureate or post-graduate degree

As we develop programs, we adopt the philosophy, “Our Mission is Your Success.” The educational programs, and the partnerships developed, are designed to meet the needs of each of the distinct populations identified above. In broad terms, the department encourages students to:

- Have an entrepreneurial mindset to believe anything is possible and recognize that the hardest step is to simply begin the journey.
- Consider one additional educational step beyond what he or she currently thinks is possible (e.g., if you can earn a certificate, consider an AS or AAS degree).
- Identify and commit to complete a full program pathway. For example, the short-term certificates are currently being modified to be completely stackable, meaning that a student who completes one certificate can use it to complete a longer degree. Intrusive advising and active faculty mentoring will be key components needed to realize this objective.
• Provide mobile learning opportunities, highlighted by whole-class delivery options as well as through in-class applications and outside-of-class assignments.

A diagram in the appendix illustrates how the different programs affiliated with the business program work together to help students achieve educational goals identified through the advising and mentoring process.

**Quick Snapshot:**

The following list provides a quick summary of the current status of the program:

- Full-time Faculty: 3 (2 in Price, 1 in Blanding)
- Part-time Faculty: 4 (2 in Price, 1 in Blanding, 1 in Roosevelt)
- Non-credit Faculty: 4 (3 in Price, 1 in Blanding, all 4 are part-time in business)
- Current FTE: 16.05
- Teaching Load: 15 credits (for full-time faculty members)
- Certificates:
  - Accounting / Information Systems
  - Office Systems / Secretarial
- Associate Degrees:
  - Business (AS, designed for transfer)
  - Business Administration (AAS)
  - IT Support & Web Design (AAS)
- Certificates of Proficiency in Development or Discussion: (16-18 credits)
  - Small Business Management & Entrepreneurship
  - Digital Design
  - Web Business
  - Travel & Tourism

**Department Goals**

Specific short-term and long-term goals have been established to help achieve the mission and vision articulated above. The goals and plans have been based on the needs of the region, along with identified strengths and challenges.

**Existing Strengths:**

- Highly-qualified faculty members, with extensive teaching experience
- Well-equipped labs and access to a number of broadcast rooms
  - Almost all courses are now available through IVC broadcast
  - Several courses are now available online or in a hybrid format
- The business core is available at night, on a two-year cycle
- Courses that can be offered in credit or non-credit formats
- A new Center for Workforce Development, in a prime location on the Price campus, to enhance existing partnerships
  - Business Expansion & Retention (BEAR, economic development)
Office space for the Division of Workforce Services (DWS) & Vocational Rehabilitation
Small Business Development Center (SBDC)
Custom Fit Director (short term, customized training)
Internships and job placement
Advising & career planning

Challenges Being Addressed:

- A significant reduction has been experienced in full-time faculty due to budget cuts, combined with an early retirement incentive (4-5 in Price, 2 in Blanding)
- A declining population base, and declining enrollments for several years at the college (Note: The enrollment change at the college is now moving back upward, based on an ambitious 4 in 4 goal being promoted by the Chancellor)
- Degrees and certificates that have not been fully updated & aggressively marketed
- A lack of complete and accurate enrollment data
  - Credit and non-credit courses were kept in separate database systems
  - Custom Fit, STIT, and SBDC courses record information separately from other credit or non-credit courses
- Placement data is not readily available
- In the past, credit and non-credit business & computer courses were offered and tracked in separate divisions at the college

One-Year Goals & Plans:

The department has determined that course offerings and degrees need to be modified to better align with current business needs and identified goals. Faculty members are actively revising all certificate and degree offerings, based on needs identified by advisory committees and in conjunction with the overall state goal identified by Governor Herbert to have 66 percent of all adults hold some type of certificate or degree by the year 2020.

The initial focus in the next year will be to fully develop and market at least 3 Certificates of Proficiency. These certificates are designed to be completed in a single semester, contain an easily identifiable and marketable set of skills, and be building blocks to complete longer degrees (be stackable). For example, a student who completes a certificate of proficiency would be able to take five or six additional classes to complete a year-long Certificate of Completion (30-35 credits). Likewise, students will be able to use two certificates of proficiency as part of an AAS degree.

A new baccalaureate degree in Business Education is also being developed that should begin by no later than fall 2015. It is currently being reviewed by appropriate curriculum committees at USU.

Action steps have been identified to accomplish the one-year goals.

Action Steps:
• Finalize the requirements for Certificates of Proficiency in Digital Media, Web Business, and Small Business Management & Entrepreneurship by the end of April, 2014.
• Modify the current advising sheets for the AS and AAS degree to incorporate the new certificates by the middle of May, 2014.
• Develop and broadly distribute new brochures by the end of May, 2014.
• Meet with the following support groups to promote the new certificates.
  o Program Advisory Committee
  o DWS and Vocational Rehabilitation Counselors
  o Directors and educational leaders in Moab
  o BEAR groups
  o UCAP board (a general advising group to promote economic development)
  o Regional CTE Directors and Pathways Coordinators
  o Selected teachers at local high schools
• Work with the program developer in the Uintah Basin to present the R401 proposal for the Business Education degree to the Regents for approval
• Hire a new individual to oversee internships and job placement efforts
• Implement a new entrepreneurship course that will act as the first course in an entrepreneurship minor
  o Two faculty members have been trained at the Kaufmann Foundation
  o The course will be offered for the second time this fall
  o The course has been approved by the Huntsman School as a substitute course for the first class within a 12-credit minor
• Support an annual innovation and business contest (the entrepreneurship course will include an application for the innovation contest)
• Transition all data records to Banner, the database used at USU (this transition is already well underway)
• Work with individuals in Moab and Blanding to determine the feasibility and need to offer an additional Certificate of Proficiency in travel and tourism

Five-Year Goals & Plans:

The program has also identified the following long-term goals:
• Meet with our Program Advisory Committee at least twice per year
  o Review all degrees at least annually
  o Seek help in promoting and marketing training options
  o Seek feedback on unmet needs
  o Develop new or existing partnerships
• Begin a database to track student placement and success
• Work to achieve FTE ratios of 1:20 or higher
  o Add additional receive sites for broadcast
  o Convert at least 3 courses to an online/hybrid course
  o Carefully and strategically schedule courses
  o Add 2-3 courses, if appropriate, the high school master list for concurrent enrollment
Promote degrees throughout the RCDE system

- Work with the regional campus system to identify and set appropriate goals for the total number of students and cohort groups for the proposed BS degree
- Assign all business students to a faculty mentor and consider reestablishing the back-to-school advising and orientation dinner
- Do regular visits to high schools in our region to increase collaboration with business teachers and counselors (with an initial goal of at least 1 visit per year)
- Inform business students of possible future internships and complete a skill and interest form during their first semester as a declared major
- Implement steps to encourage students who complete the AS degree to (1) actually apply for the degree, (2) continue on to complete a baccalaureate degree through the Huntsman School and/or the entrepreneurship minor, and (3) consider working toward the MBA degree that is now available at Eastern

Program Support

Facilities and Equipment

The college has a number of dedicated computer labs, and is increasing the number of available IVC broadcast rooms. All the computers are capable of running current versions of all software, and adequate funds are available to purchase updated software. Facilities and modern equipment are strengths of the program and key tools needed to increase enrollments and efficiency. The department is grateful for the support provided by USU Eastern.

Professional Development

USU Eastern provides a tuition benefit for all faculty members who want to take additional courses to enhance their education. In addition, at least $1,000 is available annually ($500 from the ASTE Department in Logan and $500 from the PTE Division) for faculty members who want to attend conferences or other training.

In addition, the division pays the expenses to two annual training conferences in Utah that are sponsored by the UACTE organization. Finally, departmental funds may be requested to attend other in-state training conferences.

Students

Admission Standards

USU Eastern is an open-enrollment institution. Students only need a high school diploma (or its equivalent), and scores from recognized screening tests for initial English and math placement (ACT and/or Accuplacer). The business program does not require any additional entrance requirements, although several classes require a minimum GPA to be transferable to other business schools in the state (e.g., a “B” in a computer course). The transfer requirements are communicated to students in the classroom and in syllabi.
Student Credit Hours Generated

The business program is unique in comparison to many traditional programs on campus in that we offer classes for credit that generate student credit hours and also classes for non-credit that are measured in membership hours (see figure 1). The following chart shows the hours generated in the past four semesters. The SCH hours are increasing slightly, and the FTE ratio has increased, but significant work still needs to be done.

**Figure 1: Hours Generated**

It is our view that significant new opportunities, and corresponding enrollment gains, are possible as we reinvent what we offer and how it is delivered. It should be noted, however, that additional faculty members will be needed in the future to reach our full potential. The past faculty reductions have significantly added to the breadth of workload assignments and planning requirements of existing faculty members. In addition, future plans may require new hires that have expertise that may be lacking in current faculty members (e.g., in travel and tourism).

Enrollment and Attrition Trends

The chart below shows enrollment trends, as measured by unduplicated headcount, in our four main counties for the past three academic years since our merger with USU in 2010 (see figure 2). The “Off-Site” column shows enrollments at other USU locations that are not located within our primary service region. Each number represents a unique student who took a course offered by the business department.
An analysis of the numbers reveals a significant downturn in headcount after the 2011 academic year. Several factors have affected this number:

- As mentioned previously, the number of faculty members has been reduced significantly because of budget reductions, combined with an early-retirement incentive.
- The number of sections offered for individual courses were reduced because of a desire to improve efficiency and as a result of fewer available instructors.
- We offer fewer elective courses that are not required for existing degrees.
- The overall enrollments of the college declined for several years in a row. Fortunately, that trend appears to be moving back the other direction.
- Two content areas that used to count for general education, computer literacy and oral communication, were removed as GE requirements after the merger. As a result, significantly fewer students now take those classes. For example, we used to offer at least eight sections of face-to-face computer literacy classes that were all fully enrolled, along with online offerings. Now, we typically offer two sections of the course, with reduced enrollments (down about one third).

However, there is also good news that should be noted. First, we are now expanding into other markets and regions as noted by the new “Off Site” numbers, and we believe the potential for future growth in these areas is phenomenal. Next, FTE and efficiency ratios have improved in the past year. Finally, the reductions have given us a great opportunity to reinvent what we do, who we serve, and how we deliver our services.

The vast majority our courses are now available via broadcast. In addition, online and hybrid options are being considered for several courses. The new Certificates of Proficiency are a result of this introspection and reflect a focused, direct effort to better serve and transform the lives of people in our region.

**Graduation and Retention Rates**

We do a good job retaining our students, and faculty members get solid student evaluations, but graduation is an area where significant work is needed (see table 1 and
figure 3). Despite a significant number of people who take courses in the program, we only have a limited number of graduates as reflected by the chart below.

Table 2: Completed degrees and certificates

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*Graduation data includes Accounting, Business, & Business Computer Information Systems

We found several data errors in reviewing the rates and believe actual graduation numbers should be higher. For example, a co-salutatorian graduating this year is a business major but is listed as a general education student. However, data accuracy is not the primary challenge or a root cause of the current graduation rates. The key elements needed to improve graduation rates are within the realm of the members of the department. Specifically, faculty members and support staff can do the following to improve graduation rates:

• Better market existing and proposed degrees
• Encourage students to complete full degrees (additional advising & mentoring)
• Ensure students to apply for certificates and degrees that have been earned
• Improve and clearly articulate pathways that are available and the steps needed to complete each transition
  o Non-credit or college-readiness training → Credit courses
  o Certificates of Proficiency → Full Certificates of Completion
  o Certificates of Proficiency and/or Certificates of Completion → AAS/AS
  o AS → baccalaureate degrees, with an entrepreneurship minor → MBA

Transfer Data

USU Eastern is part of the Utah Business Academic Advising Network (UBAAN). This is a statewide group that includes advisors and/or faculty members in business from
major public and private colleges and universities in Utah. Representatives are also involved from BYU Hawaii.

The group originally developed the AS business transfer degree. They meet bi-annually to review articulation documents and to tackle transfer issues. In addition, a statewide group also meets annually to review common course numbers and content. A common articulation document is distributed and updated at all of these meetings.

A representative of Eastern has been part of this group for almost 20 years and has served on more than once occasion as the statewide president. There are always transfer issues, and individual schools may not accept some individual courses. However, our experience, and the feedback received from students, is quite positive. Students who complete the AS degree are typically able to transfer smoothly from Eastern to other four-year institutions to continue advanced degrees.

Transfer articulation for certificates and applied degrees is done on a course-by-course basis with schools that have similar courses. A statewide articulation agreement has not been developed for certificates or applied degrees since a primary goal of these offerings is skill development and possible employment, not transfer.

**Concluding Thoughts**

Despite past enrollment or financial challenges, this is an exciting time for the business department. This program review has given us an opportunity to reevaluate what we do, who we serve, and what we should offer. In a recent accreditation visit, one faculty member observed the following sign on a classroom wall:

No matter where you start or what you hope to achieve…
- We will educate you
- We will support you
- We will put opportunities within your reach
…now you just have to take us up on it! –Tacoma Community College

This statement summarizes the opportunities and vision we embrace as we move forward. As we seek to prepare the people who create and sustain our region, we have a real and significant opportunity to transform lives.
Appendix 2A

Supporting Documents

Degrees and pathways, marketing materials, credit offerings, non-credit offerings
ASSOCIATE OF APPLIED SCIENCE

The associate of applied science degrees are designed to provide you with the business, computer, and office knowledge needed to enter the workforce immediately upon graduating from USU Eastern with an associate's degree in one specific field of interest.

IT SUPPORT & WEB DEVELOPMENT

The AAS in IT Support & Web Development combines the best of web design training with the technical aspects of maintaining a local area network for small businesses.

ASSOCIATE OF SCIENCE

For students interested in transferring to a 4-year business program.

For more information, contact:
Utah State University-
College of Eastern Utah
451 East 400 North
Price, UT 84501
(435) 613-5277

www.csu.edu
> Programs/Disciplines
> Perspective Students
> Circulars

Why USU Eastern?

Small class sizes
Free tuition and personal attention
On-campus housing
Career-oriented business clubs
Culturally diverse experience
Versatile career and educational opportunities
Many student activities/organizations (Phi Beta Lambda, Delta Epsilon Chi)
Affordable, quality education

Scholarships/Financial Aid

To help students in need of financial assistance or those eligible for academic awards, USU Eastern participates in a number of federal and state aid programs. Students interested should apply for aid and scholarships by February 1 through the Financial Aid Office. For more information, call (435) 613-5283.

Housing Information

Housing Office
Utah State University- College of Eastern Utah
1401 East 400 South, Price, UT 84501
800-652-2161, 435-613-5230

Why USU Eastern's IT Support & Web Development Degree?

Internal, small business network expertise
Personal skill in website creation and administration
Versatile IT knowledge for competitive business marketing

USU Eastern offers a general AS degree which can be directed toward computer science. Computer science (CS) is an exciting, constantly changing, and challenging discipline. CS has many areas of focus, such as: Gaming, Artificial Intelligence, Simulation, Compilers, File Processing, Software Engineering, and Robotics Programming.

For more information on the CS area at USU Eastern, contact Henry Zwick at 435-613-5277.

Associate of Science
IT Support & Web Development
Price, Utah

IT Support & Web Development Degree Requirements

Total Program Credits: 60-62

*Coursework can be completed online or at any USU branch campuses. Please consult with your advisor to ensure a complete and accurate program plan.

Why USU Eastern?
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<tbody>
<tr>
<td>ACTG</td>
<td>1111</td>
<td>Survey of Accounting</td>
<td>Designed for the business student who would like to develop a foundational understanding of accounting procedures in preparation for ACTG 2010 for those who have been taught the course. Course content is divided into basic accounting and bookkeeping procedures. It is also intended for the non-business student or the secretarial major who needs only one semester of basic accounting. Covers the accounting cycle for both service and merchandising businesses and an introduction to payroll accounting and financial statement preparation and analysis. Campus: USU-CU only. Semester(s): Traditionally Offered: Fall, Spring.</td>
<td>3</td>
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<tr>
<td>ACTG</td>
<td>2010</td>
<td>Financial Accounting</td>
<td>Designed for all students wanting to learn about accounting as the language of business. Course is required for business and accounting majors. Introduces students to basic accounting principles necessary to prepare, understand, and use financial statements and financial information for decision making. Designed to provide the student with useful and productive skills that will help in understanding more of the business world and the role accounting information plays in the U.S. economy. Campus: USU-CU only. Semester(s): Traditionally Offered: Fall, Spring.</td>
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<tr>
<td>ACTG</td>
<td>2020</td>
<td>Managerial Accounting</td>
<td>Designed for all students wanting to learn how accounting information is used in business decisions. Course is a required class for business and accounting majors. Focus is on providing relevant information that is necessary to assist managers in a modern, global environment. Topics will include profitability, inventory, and budgeting. Prerequisite/Restriction: ACTG 2010 and MATH 1030 recommended. Campus: USU-CU only. Semester(s): Traditionally Offered: Fall, Spring.</td>
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<tr>
<td>ACTG</td>
<td>2151</td>
<td>Income Tax Prep</td>
<td>Income Tax Preparation gives students understanding and skill in preparation of the IRS 1040 form and supporting schedules. Students prepare and electronically file these documents as a service to low-income and senior citizens in the community members using the computer. Students will become aware of important individual decisions in reporting and financial tax planning. Campus: USU-CU only. Semester(s): Traditionally Offered: Spring.</td>
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<tr>
<td>ACTG</td>
<td>2800</td>
<td>Computerized Accounting</td>
<td>Enhances students' understanding of fundamental accounting principles in General Ledger, Accounts Receivable, Accounts Payable, Inventory, and Payroll using QuickBooks software. Prerequisite/Restriction: ACTG 1111 or ACTG 2010. Campus: USU-CU only. Semester(s): Traditionally Offered: Spring.</td>
<td>2</td>
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<tr>
<td>BCIS</td>
<td>2900</td>
<td>Computer Basics</td>
<td>Designed for students with little or no previous computer experience to give them a practical knowledge in using a computer, with emphasis on home use. Concepts covered include keyboard and mouse use, learning the purpose of computer devices, changing computer settings, file management, using the Internet and e-mail, basic word processing, and digital media management. Campus: Regional Campuses and Distance Education.</td>
<td>2</td>
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<tr>
<td>BCIS</td>
<td>3000</td>
<td>Intro to Computer Science</td>
<td>Strictly a lecture class with NO hands-on experience. Class is a survey of computers that covers hardware, software, computer history, computer ethics, operating systems, programming languages, and computer networks. A research paper will be required. Campus: Regional Campuses and Distance Education Semester(s): Traditionally Offered: On Demand only.</td>
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<tr>
<td>BCIS</td>
<td>3101</td>
<td>Computer Literacy</td>
<td>Course uses the Microsoft Office program to teach students basic word processing, data processing, spreadsheet, graphics, internet, Windows, and e-mail skills in a business setting. Following the completion of the course, students will be able to use the Microsoft Office program for personal and business use. Business majors refer to BCIS 2010. Campus: Regional Campuses and Distance Education Semester(s): Traditionally Offered: Fall, Spring.</td>
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<tr>
<td>BCIS</td>
<td>3200</td>
<td>Introduction to Operating Systems</td>
<td>This course will provide you with an understanding of multiple operating systems commonly found in the Information Technology field today. You will learn the theory behind operating systems and some basic to advanced components of each operating system. This course walks you through current hardware and how it interacts with operating systems. You will learn basic functions and design of file systems found in Windows, UNIX/Linux, and MS/Windows operating systems. You will also learn techniques to protect users from computer viruses, malware, and malware. Campus: Regional Campuses and Distance Education Semester(s): Traditionally Offered: On Demand only.</td>
<td>2</td>
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<tr>
<td>BCIS</td>
<td>3300</td>
<td>Website Design</td>
<td>This course focuses on the design and construction of Internet Web pages. Web page development using HTML and Web page editing software is discussed. All students will have hands-on experience creating and publishing their own Web pages. Word processing and file management skills are strongly recommended. Campus: Regional Campuses and Distance Education Semester(s): Traditionally Offered: Fall, Spring.</td>
<td>3</td>
</tr>
<tr>
<td>BCIS</td>
<td>3310</td>
<td>Digital Image Basics</td>
<td>Covers digital camera basics, downloading images, applying some basic touch-up and enhancements using popular software, options for printing your pictures, creating cards, scrapbooks, calendars, screen projects to display on a computer or on a DVD for television, and converting and compressing digital images into appropriate file formats to store and archive correctly. Campus: Regional Campuses and Distance Education.</td>
<td>2</td>
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<tr>
<td>BCIS</td>
<td>3340</td>
<td>Digital Video Production</td>
<td>This course covers fundamental theories and practices of computer-based audio and video production, including recording, editing, digitizing audio and video segments utilizing current video-editing programs, and various Internet streaming technologies. Includes lectures, demonstrations, and a project during which each student will set up, shoot, edit, and distribute a high-quality video project for computer-based multimedia. Campus: Regional Campuses and Distance Education Semester(s): Traditionally Offered: Fall, Spring, Odd Years.</td>
<td>3</td>
</tr>
<tr>
<td>BCIS</td>
<td>3350</td>
<td>Flash Basics and Interactive Web Design</td>
<td>Introduction to the Adobe Flash multimedia authoring environment. Students will have hands-on experience developing streaming web-based multimedia presentations and websites incorporating animation, sound, and graphics. Students will use the Flash scripting language, ActionScript, to add interactivity and functionality to their Flash projects. Prerequisite/Restriction: BCIS 1000 or experience in creating web pages. Campus: Regional Campuses and Distance Education Semester(s): Traditionally Offered: Fall, Spring, Even Years.</td>
<td>3</td>
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<td>Class</td>
<td>Course No.</td>
<td>Current Catalog Course</td>
<td>No. of Credits</td>
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<tr>
<td>BCS1405</td>
<td>1405</td>
<td>Word Processing I (Microsoft Word)</td>
<td>3</td>
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<tr>
<td>BCS1420</td>
<td>1420</td>
<td>Spreadsheet I (Excel)</td>
<td>2</td>
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<tr>
<td>BCS1411</td>
<td>1411</td>
<td>Spreadsheet II (Excel)</td>
<td>2</td>
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<tr>
<td>BCS1560</td>
<td>1560</td>
<td>Java Programming</td>
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<tr>
<td>BCS1900</td>
<td>1900</td>
<td>Elementary Typewriting and Keyboarding</td>
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<tr>
<td>BCS1901</td>
<td>1901</td>
<td>Intermediate Keyboarding</td>
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<tr>
<td>BCS2210</td>
<td>2210</td>
<td>Linux and Web Server Administration</td>
<td>3</td>
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<tr>
<td>BCS2500</td>
<td>2500</td>
<td>Web Programming</td>
<td>2</td>
<td></td>
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<tr>
<td>BCS2530</td>
<td>2530</td>
<td>Business Data Networking</td>
<td>3</td>
<td></td>
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<tr>
<td>BCS2540</td>
<td>2540</td>
<td>Intro to Multimedia Authoring</td>
<td>3</td>
<td></td>
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<td>BCS2545</td>
<td>2545</td>
<td>Multimedia Authoring Lab</td>
<td>2</td>
<td></td>
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<tr>
<td>BCS2546</td>
<td>2546</td>
<td>Multimedia Authoring Lab</td>
<td>2</td>
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<tr>
<td>BCS2400</td>
<td>2400</td>
<td>Database I</td>
<td>2</td>
<td></td>
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<tr>
<td>BCS2430</td>
<td>2430</td>
<td>Desktop Publishing</td>
<td>2</td>
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</tr>
</tbody>
</table>

- **BCS1405**: This course is designed to teach word processing techniques using Microsoft Word. Students will learn document design and formatting skills as well as advanced word processing skills such as graphic formatting, mail merge, charts, and diagrams, tables, and macros. Campus: Regional Campuses and Distance Education Semester(s) Traditionally Offered: Fall
- **BCS1420**: Introduction to spreadsheet operations. Several pre-defined spreadsheet functions will be introduced. Creating charts, graphs, and other graphic elements will be covered. Prerequisite/Restriction: Limited typewriting and math skills (MATH 0930). Campus: Regional Campuses and Distance Education Semester(s) Traditionally Offered: Fall, Spring
- **BCS1411**: Continuation of the BCS 1410 class. Covers databases, database functions, tables, graphics, styles, macros, application development, and basic programming techniques. Prerequisite/Restriction: BCS 1410 Campus: Regional Campuses and Distance Education Semester(s) Traditionally Offered: Spring
- **BCS1560**: This course covers the syntax of the Java Programming Language. Some of the topics covered will be objects, references, control structures, error handling, and others.
- **BCS1900**: Designed for students with little or no previous keyboarding experience. Emphasizes fundamental keyboarding skills as well as technique. Touch keyboarding covering the letter, figure, and symbol keys. Campus: Regional Campuses and Distance Education Semester(s) Traditionally Offered: Fall
- **BCS1901**: Designed for students who have had previous keyboarding and computer experience. Designed to significantly improve typing speed and accuracy. Covers how to produce several types of reports, memos, letters, questionnaires, and tables required by specific business offices. Campus: Regional Campuses and Distance Education Semester(s) Traditionally Offered: Spring
- **BCS2010**: Designed for business majors and uses the Microsoft Office program. Covers basic word processing, data processing, spreadsheet, graphics, internet, Windows, and E-mail skills in a business setting. Following the completion of the course, students will be able to use the Microsoft Office program for personal and business use. Transfer students are required to make a "D" or better to transfer this credit. Campus: Regional Campuses and Distance Education Semester(s) Traditionally Offered: Fall, Spring
- **BCS2210**: This course introduces students to the knowledge and skills needed to manage all Linux distributions. Students will also be introduced to the Linux shell and command line interface. Campus: Regional Campuses and Distance Education Semester(s) Traditionally Offered: Spring, Odd Years
- **BCS2500**: This course is a Web page authoring course designed to give the student the knowledge to design advanced web pages. Graphics, content, layout, and aesthetics will be stressed. Extensive use of JavaScript, Active X, CSS, XML, and PHP will be used to enhance web page functionality and appearance. Web-based forms, data collection and dynamic web pages will also be covered. Prerequisite/Restriction: BCS 1200 or permission of instructor Campus: Regional Campuses and Distance Education Semester(s) Traditionally Offered: Spring, Odd Years
- **BCS2530**: Emphasizes on business data communications in a LAN and WAN networking environment. Includes network protocols, cable technology, telecommunications standards, security issues, and general telecommunication management issues. Prerequisite/Restriction: Computer Facility requirement. Campus: Regional Campuses and Distance Education Semester(s) Traditionally Offered: On Demand only
- **BCS2540**: Uses a popular software package to create a multimedia presentation. Gives students a good start in multimedia development. Introduces students to Macromedia's Authorware software program. Since the Authorware program is very complex, only the essential functions of the program will be used as a basis for this course. Students will have the opportunity to develop a basic self-directed design module that will include the major components of the software covered during class time. Utilizing Authorware, this course will provide the designer with the core foundations for the development of computer-based instruction. Prerequisite/Restriction: BCS 1340 Campus: Regional Campuses and Distance Education Semester(s) Traditionally Offered: On Demand only
- **BCS2545**: Focuses on multimedia authoring using the capabilities of Macromedia Director. Covers authoring tools, scripting, Links, and other features. Prerequisite is hands-on experience with beginner level of Director. Students work through textbook lessons and create their own multimedia projects. Corequisite: BCS 2345 Campus: Regional Campuses and Distance Education Semester(s) Traditionally Offered: On Demand only
- **BCS2546**: Focuses on the production of interactive multimedia projects using the capabilities of Macromedia Director. A hands-on experience that includes design, audience analysis, project management and delivery. Students walk in teams during the term on a single instructional project of their choice. Corequisite: BCS 2445 Campus: Regional Campuses and Distance Education Semester(s) Traditionally Offered: On Demand only
- **BCS2400**: Uses the current version of Microsoft Access for Windows. Introduces data processing techniques including creating, editing and querying a database. Students will also learn how to create custom forms and reports, and how to design custom advanced event and use World Wide Web and Hypertext. Transfer students are required to earn a "B" or better to transfer this course. Prerequisite/Restriction: BCS 1040, BCS 2000 or equivalent. Campus: Regional Campuses and Distance Education Semester(s) Traditionally Offered: Fall, Spring
- **BCS2430**: Introduces students to the concepts of desktop publishing using Microsoft Publisher. Concepts covered include such topics as creating business cards, brochures, flyers, brochures and newsletters. Prerequisite/Restriction: BCS 1405 Campus: Regional Campuses and Distance Education Semester(s) Traditionally Offered: Spring.
<table>
<thead>
<tr>
<th>Class Code</th>
<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>BCS 2411</td>
<td>Graphics for the Web</td>
<td>4</td>
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<tr>
<td>BCS 2500</td>
<td>Web Business</td>
<td>3</td>
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<tr>
<td>BCS 2550</td>
<td>Fundamentals of Fortran</td>
<td>3</td>
</tr>
<tr>
<td>BCS 2570</td>
<td>Assembly Language</td>
<td>3</td>
</tr>
<tr>
<td>BCS 2650</td>
<td>Administering Windows Professional</td>
<td>3</td>
</tr>
<tr>
<td>BCS 2681</td>
<td>Introduction to Networking Net+</td>
<td>3</td>
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<td>BCS 2682</td>
<td>Computer Repairs, A+</td>
<td>3</td>
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<td>BCS 2500</td>
<td>Information Security Fundamentals</td>
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<td>BCS 2651</td>
<td>Computer Security Fundamentals</td>
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<td>BCS 2655</td>
<td>Computer Forensics</td>
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<td>BCS 2907</td>
<td>Cooperative Education</td>
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<td>BCS 2988</td>
<td>Societal Problems</td>
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<td>Business Principles</td>
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<td>Personal Finance</td>
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<td>Business Math</td>
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<td>BUSA 1051</td>
<td>Business Presentations</td>
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<td>BUSA 1310</td>
<td>Introduction to Business Management</td>
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<td>BUSA 1400</td>
<td>Intro to Hospitality</td>
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<td>BUSA 1500</td>
<td>Business Leadership Club</td>
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<td>BUSA 2050</td>
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<td>BUSA 2160</td>
<td>Intro to Business Finance</td>
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<td>BUSA 2200</td>
<td>Business Communication</td>
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<td>BUSA 2201</td>
<td>Marketing Concepts</td>
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<td>BUSA 2202</td>
<td>International Marketing</td>
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<td>BUSA 2211</td>
<td>Intro to Advertising</td>
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<td>BUSA 2211R</td>
<td>Retail Merchandising</td>
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<td>BUSA 2751</td>
<td>Consumer Behavior</td>
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<td>BUSA 2320</td>
<td>Small Business Management</td>
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<td>BCS 2441</td>
<td>Graphics for the Web</td>
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<td>BCS 2500</td>
<td>Web Business</td>
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<td>Fundamentals of Fortran</td>
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<td>BCS 2570</td>
<td>Assembly Language</td>
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<td>Administering Windows® Professional</td>
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<td>Introduction to Networking Net+</td>
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<td>BCS 2822</td>
<td>Computer Repair, A+</td>
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<td>Computer Security Fundamentals</td>
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<td>BCS 2655</td>
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<td>BCS 2957</td>
<td>Cooperative Education</td>
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<td>BCS 2988</td>
<td>Social Problems</td>
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<td>BUSN 1010</td>
<td>Business Principles</td>
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<td>BUSN 3010</td>
<td>Organizational Behavior</td>
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<td>BUSN 2500</td>
<td>Business Ethics and Social Responsibility</td>
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<td>BUSN 4000</td>
<td>Business Consulting</td>
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<td>BUSN 3200</td>
<td>Business Forum</td>
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<td>BUSN 3000</td>
<td>Cooperative Education</td>
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<tr>
<td>BUSN 2960</td>
<td>The IVE House- An Entrepreneurial Mindset</td>
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<td>CS 1010</td>
<td>Introduction to Computer Science</td>
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<td>Computer Science I - CIL</td>
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<td>ECON 1010</td>
<td>Economics as a Social Science</td>
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<tr>
<td>ECN 1740</td>
<td>U.S. Economic History &amp; American Institutions</td>
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<tr>
<td>ECN 1100</td>
<td>Intro to Econ Institutions, Hist., and Principles</td>
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<td>ECN 2100</td>
<td>Introduction to Microeconomics</td>
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<td>ECN 2100</td>
<td>Principles of Macroeconomics</td>
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<tr>
<td>ACTG 0100</td>
<td>QuickBooks Applications</td>
<td>Learn abilities of industry utilized accounting software. Students will perform accounting functions including setting up a company, accounting for daily transactions, managing inventory, processing payroll, working with bank accounts, and preparing financial statements.</td>
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<tr>
<td>ACTG 0010</td>
<td>Introduction to QuickBooks</td>
<td>This course will provide a basic understanding of this electronic accounting and bookkeeping program for business owners. Owners who take time to set up their business’s books correctly from the start have a better chance of being successful.</td>
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<td>ACTG 0200</td>
<td>Core Concepts of Accounting</td>
<td>This course will introduce you to some basic accounting principles, accounting concepts, and accounting terminology.</td>
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<td>ACTG 0798</td>
<td>Special Problems</td>
<td>Individual work approved by the department instructor. Time and membership hours to be arranged.</td>
</tr>
<tr>
<td>ACTG 0799</td>
<td>Special Problems</td>
<td>Individual work approved by the department instructor. Time and membership hours to be arranged.</td>
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<tr>
<th>Course #</th>
<th>Course Title</th>
<th>Course Description</th>
<th>Hours</th>
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<tbody>
<tr>
<td>BCIS 0020</td>
<td>Computer Technology</td>
<td>A course designed to teach advanced computer skills for the CAD environment, covering topics such as: system administration, computer networking, PC repair, maintenance, and computer upgrades.</td>
<td>130</td>
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<tr>
<td>BCIS 0030</td>
<td>Robot Programming</td>
<td>To introduce students to robots construction, and programming. Students will learn to develop correct software in a simple programming language environment that will drive their robot through several challenges.</td>
<td>120</td>
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<tr>
<td>BCIS 0040</td>
<td>Introduction to Programming</td>
<td>An introduction to computer programming/software engineering and applications. The course introduces students to the fundamentals of computer programming, to simple controls and data structures, to operating system commands, and to the user of text files. Students will learn to design, code, and test their own programs. Student will also apply mathematical skills throughout the course.</td>
<td>130</td>
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</tbody>
</table>

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<thead>
<tr>
<th>Course #</th>
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<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>BCIS 0050</td>
<td>Introduction to Super Computers</td>
<td>This course is to introduce high school students to the techniques involved in programming and managing Computer Clusters, which consist of many smaller machines working in concert.</td>
<td>130</td>
</tr>
<tr>
<td>BCIS 0060</td>
<td>Introduction to A+ Essentials</td>
<td>This class is designed to explore physical and functional characteristics of computer devices and components and trends in computer architecture. Emphasis will be placed on configuring a microcomputer, troubleshooting, interrupts, device and memory management, virtual memory and paging, file management, and performance analysis. Lab exercises include assembling a computer and troubleshooting problems. Prepares student for hardware exams, such as the A+ hardware certification.</td>
<td>130</td>
</tr>
<tr>
<td>BCIS 0070</td>
<td>Linux+</td>
<td>Course will introduce students to the basics of the Linux Operating System and the history of the Open Source Community. Basic hardware and software concepts will be taught to make sure the students have the proper knowledge to understand the more complex topics discussed in the Linux material. After successful completion of this course, the students will be prepared to take CompTIA's Linux Industry exam.</td>
<td>130</td>
</tr>
<tr>
<td>BCIS 0080</td>
<td>Introduction to Game Design and Programming</td>
<td>This course is a basic course that will introduce students to game design and programming. No prior experience in programming and graphic design required.</td>
<td>130</td>
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<tr>
<td>BCIS 0090</td>
<td>Networking Technology</td>
<td>This course includes terminology and networking concepts including design, topology, implementation, cabling, connecting network components, signal transmission and network adapter cards. The OSI and 802 networking models within the network environment teach students how networks send data. Architectures will be included as well as administration, support, security, fault tolerant systems, wide area network and troubleshooting network problems. Prepares student for exams such as Network+ Certification Exam and qualifies as one exam in the Microsoft Certified Systems Administrator (MCSA).</td>
<td>130</td>
</tr>
<tr>
<td>BCIS 0110</td>
<td>Keyboarding Basics</td>
<td>This course is designed for students to learn or increase their keyboarding ability. Students will learn basic keyboarding techniques and will work towards improving accuracy and or keyboarding speed.</td>
<td>1-30</td>
</tr>
<tr>
<td>BCIS 0111</td>
<td>Keyboarding I</td>
<td>Provides intensive skill building practice using drills and timed writings, which will help students increase speed and accuracy on a computer keyboard. The course covers an introduction to the computer keyboard and keyboarding techniques, 30 wpm.</td>
<td>1-30</td>
</tr>
<tr>
<td>BCIS 0112</td>
<td>Keyboarding II</td>
<td>This is a continuation of keyboarding I and is designed to increase speed and accuracy to a minimum job-market level of 40 wpm. The course is taught using computers with an emphasis on correct keyboarding techniques. Timings and drills are used to enhance keyboarding skills.</td>
<td>1-40</td>
</tr>
<tr>
<td>Course Code</td>
<td>Course Name</td>
<td>Course Description</td>
<td>Credits</td>
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<tr>
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<td>---------</td>
</tr>
<tr>
<td>BCS 0113</td>
<td>Keyboarding III</td>
<td>This is a continuation of Keyboarding II and is designed to increase speed and accuracy to a minimum job-market level of 50 wpm. The course is taught using computers with emphasis on correct keyboarding techniques. Timed writings and drills are used to enhance keyboarding skills.</td>
<td>1-50</td>
</tr>
<tr>
<td>BCS 0120</td>
<td>Computer Basics</td>
<td>This course provides a fundamental understanding of computing including knowledge and use of computer hardware, software, and operating systems. The course will cover basic use and common features of applications (word processing, spreadsheet, and database) including internet use and e-mail.</td>
<td>1-90</td>
</tr>
<tr>
<td>BCS 0122</td>
<td>Computer Fundamentals</td>
<td>This course provides a fundamental understanding of computing including knowledge and use of computer hardware, software, and operating systems. The course will cover basic use and common features of applications (word processing, spreadsheet, and database) including internet use and e-mail.</td>
<td>1-90</td>
</tr>
<tr>
<td>BCS 0140</td>
<td>Records Management</td>
<td>Covers records retention systems and presents a systematic approach to organizing and controlling paper, image, and computer records through their life cycles.</td>
<td>1-30</td>
</tr>
<tr>
<td>BCS 0231</td>
<td>Word Processing Applications I</td>
<td>Focuses on basic word processing features used in creating, editing, saving, and retrieving business documents. Practical business applications involving creating and correctly formatting business documents, completing projects and solving problems will be covered.</td>
<td>1-90</td>
</tr>
<tr>
<td>BCS 0232</td>
<td>Word Processing Applications II</td>
<td>This is a continuation of Word Processing Application I and is designed to provide students with an advanced knowledge of word processing skills.</td>
<td>1-90</td>
</tr>
<tr>
<td>BCS 0241</td>
<td>Spreadsheet Applications I</td>
<td>This course introduces spreadsheet functions and applications. Students will learn how to design, create, manipulate, calculate, and present data. Students will utilize critical-thinking skills and apply spreadsheet techniques in developing information for business applications.</td>
<td>1-60</td>
</tr>
<tr>
<td>BCS 0242</td>
<td>Spreadsheet Applications II</td>
<td>This is a continuation of Spreadsheet Applications I and is designed to provide students with advanced knowledge of formatting techniques, spreadsheet functions, analysis tools, and management techniques.</td>
<td>1-60</td>
</tr>
<tr>
<td>BCS 0261</td>
<td>Database Applications I</td>
<td>Teaches the creation of database and introduces the application of database capabilities for information management and data manipulation. Students will learn how to design, create, manipulate, extract, and present data.</td>
<td>1-60</td>
</tr>
<tr>
<td>BCS 0262</td>
<td>Database Applications II</td>
<td>This is a continuation of Databases I and is designed to provide students with advanced skills in database design and creation, data extraction and presentation, database relationships, and data interconnectivity.</td>
<td>1-60</td>
</tr>
<tr>
<td>BCS 0310</td>
<td>Desktop Publishing</td>
<td>Introduce business application features of desktop publishing. Students will arrange text and graphics to create attractive, professional-looking documents.</td>
<td>1-90</td>
</tr>
<tr>
<td>BCS 0320</td>
<td>Electronic Presentations</td>
<td>Focuses on electronic presentation software, including designing and creating a presentation, adding visual and audio elements, creating output, and presenting information.</td>
<td>1-60</td>
</tr>
<tr>
<td>BCS 0400</td>
<td>Emerging Technologies</td>
<td>If you want to compete in today's business world, then, it's important to keep up with technology. In order to get the most out of the technology you have, to keep abreast of emerging new technology, and to find the information that will help you make the right buying decisions.</td>
<td>16</td>
</tr>
<tr>
<td>BCS 0410</td>
<td>I Pad Programming</td>
<td>Participants in this hands-on course will learn about and gain practice developing iOS applications for the full line of Apple mobile devices such as iPad and iPhone. The exercises develop a business-oriented app from the ground up, which eventually incorporates all the major systems and concepts needed for most iOS apps.</td>
<td>4</td>
</tr>
<tr>
<td>BCS 0500</td>
<td>Basic Web Design</td>
<td>This course is an introduction to creative design for the internet and technologies that are used for websites. It will enable the students to achieve basic understanding of the principles and practice of professional web design and development. It is intended for everybody who enjoys experimenting with creative design for the internet and who wants to learn how to build their own basic website design.</td>
<td>90</td>
</tr>
<tr>
<td>BCS 0510</td>
<td>Web Design</td>
<td>This course focuses on the design and construction of Internet Web pages. Web page development using HTML and Web page editing software is discussed. All students will have hands-on experience creating and publishing their own Web pages. Word processing and file management skills are strongly recommended.</td>
<td>90</td>
</tr>
<tr>
<td>BCS 0520</td>
<td>Web Design for Business</td>
<td>This course is an introduction to Web-based business. Students will discuss marketing concepts, design strategies, and technical issues as they relate to Web-based business. Students will have hands-on experience creating business Web pages including shopping carts and other interactive elements.</td>
<td>90</td>
</tr>
<tr>
<td>BCS 0530</td>
<td>ASP.NET</td>
<td>Thousands of businesses have used ASP.NET to build professional, dynamic websites. In this course students will learn the tools needed to build and deploy a dynamic site using ASP.NET. Covering everything from installing and configuring Visual Web Developer or Visual Studio Express for Web and SQL Server Express to creating web form pages. This course is designed to give beginning and intermediate developers hands-on experience.</td>
<td>45</td>
</tr>
<tr>
<td>BCS 0540</td>
<td>Cloud Computing</td>
<td></td>
<td>30</td>
</tr>
<tr>
<td>BCS 0600</td>
<td>Introduction to Computers</td>
<td>This course is very basic. A student is assumed to have no computer skills. Personal computer basics along with basic introduction to Microsoft Word and Excel are included. Basic instruction on the Internet, E-mail, and building a home page.</td>
<td>30</td>
</tr>
<tr>
<td>BCS 0610</td>
<td>Introduction to Word</td>
<td>This beginning class will teach the student how organize, analyze, and present information using Microsoft Word.</td>
<td>30</td>
</tr>
<tr>
<td>Course #</td>
<td>Course Title</td>
<td>Course Description</td>
<td>Hours</td>
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<tr>
<td>-----------</td>
<td>-------------------------</td>
<td>------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
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</tr>
<tr>
<td>BCIS 0630</td>
<td>Introduction to Excel</td>
<td>This beginning course will guide the student throughout the basics of setting up and maintaining workbooks to make daily business or home based tasks faster and automated. Some basic computer skills will be needed before starting this course.</td>
<td>30</td>
</tr>
<tr>
<td>BCIS 0630</td>
<td>Introduction to Access</td>
<td>Teaches the creation of databases and introduces the application of database capabilities for information management. Students will learn how to design, create, manipulate, extract, and present data.</td>
<td>30</td>
</tr>
<tr>
<td>BCIS 0640</td>
<td>Introduction to PowerPoint</td>
<td>This course focuses on introducing Power Point presentation software, including designing and creating a presentation, adding visual and audio elements, creating output, and presenting information.</td>
<td>30</td>
</tr>
<tr>
<td>BCIS 0611</td>
<td>Advanced Word</td>
<td>This course is a continuation of the Introduction to Word class; the student will learn the more advanced skills of Microsoft Word.</td>
<td>30</td>
</tr>
<tr>
<td>BCIS 0621</td>
<td>Advanced Excel</td>
<td>This course is an advanced Course that is a continuation of Introduction to Excel and is designed to provide students with advanced knowledge of formatting techniques, spreadsheet functions, analysis tools, and management techniques.</td>
<td>30</td>
</tr>
<tr>
<td>BCIS 0631</td>
<td>Advanced Access</td>
<td>This course is a continuation of Introduction to Access and is set up to help a student with advanced skills in database design and creation, data extraction and presentation.</td>
<td>30</td>
</tr>
<tr>
<td>BCIS 0798</td>
<td>Special Problems</td>
<td>Individual work approved by the department instructor. Time and membership hours to be arranged.</td>
<td>1-360</td>
</tr>
<tr>
<td>BCIS 0799</td>
<td>Special Problems</td>
<td>Individual work approved by the department instructor. Time and membership hours to be arranged.</td>
<td>1-360</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Course #</th>
<th>Course Title</th>
<th>Course Description</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>BUSN 0010</td>
<td>Business Writing</td>
<td>Focuses on business English essentials including, sentence structure, grammar, punctuation, parts of speech, and proofreading.</td>
<td>1-90</td>
</tr>
<tr>
<td>BUSN 0020</td>
<td>Business Writing Techniques</td>
<td>Reinforces essential English skills, while developing and applying effective written and business communication skills. This course will focus on the ability to produce clear and concise business documents in a mail able format. Students will utilize correct sentence structure, paragraph structure, word usage grammar, and punctuation while composing business correspondence.</td>
<td>1-90</td>
</tr>
<tr>
<td>BUSN 0030</td>
<td>10-Key Calculations</td>
<td>Prepares students on the 10-key calculator using the touch method to perform basic business math calculations. These calculations include addition subtraction, multiplication, division, percentages, fractions, and combining operations. Attention will be given to speed and accuracy.</td>
<td>1-60</td>
</tr>
<tr>
<td>Course #</td>
<td>Course Title</td>
<td>Course Description</td>
<td>Hours</td>
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<td>---------</td>
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<td>------------------------------------------------------------------------------------</td>
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</tr>
<tr>
<td>WDEV 0001</td>
<td>Skills Lab</td>
<td>Student can obtain additional help and study on their Open Entry/Open Exit Courses.</td>
<td>1-180</td>
</tr>
<tr>
<td>WDEV 0002</td>
<td>Test Preparation</td>
<td>Student can prepare for a variety of tests such as Accuplacer, GED, MOS Certification and other tests.</td>
<td>1-30</td>
</tr>
<tr>
<td>WDEV 0050</td>
<td>A+ Personal Finance</td>
<td>An important aspect of every student's future is the ability to plan and implement sound and responsible financial goals. The Personal Finance course will educate students in a variety of financial and monetary subjects, including the foundations of economics, preparing a budget, understanding paychecks and tax deductions, banking, and the importance of researching the quality of goods to make consumer choices.</td>
<td>1-90</td>
</tr>
<tr>
<td>WDEV 0100</td>
<td>Motorcycle Safety</td>
<td>Riding a motorcycle can be a challenge. To meet the challenge of motorcycling, a rider needs skill and knowledge. That's what the Motorcycle Safety Foundation: Basic Rider Course will give you, physical skills to make your motorcycle perform like an extension of yourself.</td>
<td>15</td>
</tr>
<tr>
<td>WDEV 0798</td>
<td>Special Problems</td>
<td>Individual work approved by the department instructor. Time and membership hours to be arranged.</td>
<td>1-360</td>
</tr>
<tr>
<td>WDEV 0799</td>
<td>Special Problems</td>
<td>Individual work approved by the department instructor. Time and membership hours to be arranged.</td>
<td>1-360</td>
</tr>
</tbody>
</table>

Page 7 of 31
Assessment Plan

For the Undergraduate Program in Cosmetology

Fall 2013
Department Profile

The course covers the beauty services of permanent waving, shampooing, hair styling, hair cutting, clipper cutting, scalp treatments, arching, lash and brow tinting, manicuring and other material essentials to being a successful cosmetologist / barber. Several different procedures are discussed in the theory courses including, sterilization, sanitation and bacteriology, permanent waving, chemical hair relaxing, hair cutting, hair coloring and lightening, superfluous hair removal, electricity and lighting therapy, barbering, men’s shaves, shampooing, hair styling, finger waving, thermal curling, hygiene and good grooming, professional and personal relations, scalp treatments, wigs, state law and reviewing for the state boards.

Lab hours give the student practical hands-on experience in hair styling, permanent waving, hair shaping, manicuring, pedicuring, tinting and bleaching, scalp treatments and facials.

Additional courses are also offered in nail technology. The 300 hour course includes manicures, pedicures and nail enhancements.

Examples of Goals, Measurements and Outcomes

The USU Eastern Cosmetology department has three goals. These are as follows:

1) Students will obtain training and experience necessary to transfer to local salons or to start in their own business.
2) Students will become familiar with state-of-the-art styling techniques.
3) Students will become proficient at performing styling services at an adequate rate.

Another goal is to develop an Esthetician course. It is a 600 hour course which requires separate licensing. Additional funding would also be required for this program.

Each course has a clearly outlined course syllabus.

The department brings in, on a regular basis, outside instructors from the industry to teach specialized classes and techniques. This practice allows students to receive a broad range of information, which affords an up-to-date state if the art type environment, which goes beyond just the required classes; also state and private advanced workshops / State Board Training classes.

The department maintains an effective advisory board that provides a link to the community and allows for excellent feedback to the instructors.
**Summary of strengths, deficiencies and recommendations**

Given the geographic location of USU Eastern campus, many departments struggle to access instructional resources. There seems to be adequate books and videos reserved at the library for cosmetology students’ use. There is also a reserve of instructional videos available on-site in one of the classrooms. Several instructors come into the classroom from out of the area on a regular basis to advise students on the latest market techniques. This enable students to receive a well-rounded perspective of what is happening outside of the area and the latest trends.

The program runs at close capacity, which is limited by the number of stations available for labs. Sections of classes are usually full and students are afforded the opportunity for individualized attention and close learning relationships with students and faculty. Specialized courses and presentations from outside presenters offers students a unique opportunity for learning and growth.

Based on current and projected enrollments (see Table 1), and including program ambitions, the space meets the needs of the students and faculty. The classrooms and stations contained in the SAC building are clean and well maintained, adequate for learning and easily accessible. There is adequate financial support from the college to purchase equipment as needed. Another classroom has been added to accommodate our thriving nail program.

<table>
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<tr>
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<th>Post-Secondary</th>
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<td></td>
<td>Credit</td>
<td>Non Credit</td>
<td>Credit</td>
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<tr>
<td>FY 11</td>
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<td>10</td>
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<tr>
<td>Credit Total</td>
<td>60</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Non-Credit Total</td>
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<td>0</td>
<td></td>
</tr>
<tr>
<td>FY 12</td>
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<td>9</td>
<td></td>
</tr>
<tr>
<td>Credit Total</td>
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<td></td>
</tr>
<tr>
<td>Non-Credit Total</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>FY 13</td>
<td>40</td>
<td>20</td>
<td></td>
</tr>
<tr>
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<td></td>
</tr>
<tr>
<td>Non-Credit Total</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
</tbody>
</table>
Appendix 3A
Supporting Documents
Student Task Record & Lab Assessments
USU EASTERN
Student Task Record - 2013

The following tasks must be completed during the next 100 hours of training in Cosmetology/Barber. All tasks are checked by the instructor.

SHAMPOO
1. ______ 2. ______ 3. ______

SCALP TREATMENTS
1. Sea Breeze/Manipulation.____ ___ 2. ______ 3. Condition. ______ 4. ______

MANICURES
1. Plain ______ 2. ______ 3. ______ 4. Oil ______ 5. ______ 6. ______

PEDICURES
1. ________ 2. _________

HAIR COLORING APPLICATION
1. Virgin Tint Darker ______ 2. Virgin Tint Lighter ______
3. Tint Retouch ______ 4. Virgin Bleach ______

FACIALS
4. Yeast ______ 6. Make up _______ 7. _______

Eye Brow Arch 1. ______ 2. _______

Lash & Brow Tint 1. ______ 2. ______
PERMANENT WAVE

1. Basic (straight back) _______ _______ . 2. Curvature __________

3. Piggyback / Double tool _______ 4. Spiral (with rods) _______ (Benders) _______

5. Weave _______ 6. Brick lay _______

HAIR CUTS

Mannequin #1

Horizontal Blunt ______________________
Horizontal Blunt ______________________

Horizontal Layering
A-Line ________________________________
Light Layer __________________________

Vertical Layering
Medium Layer __________________________
Picture Haircut _________________________

Mannequin #2

Horizontal Blunt ______________________
Horizontal Blunt ______________________

Vertical Layering
A-Line ________________________________
Light Layer __________________________

Horizontal Layering
Medium Layer __________________________
Short Layer ___________________________

Men’s Haircut

Horizontal Blunt ______________________
Long Layer ___________________________
Medium Layer __________________________
Mullet _______________________________

Short Layer ___________________________
Low Taper ____________________________

Medium Taper __________________________
High Taper___________________________

Flat Top ______________________________
Completed Haircutting __________________

HAIR STYLES

Pincurls 1. ______ 2. ______ 3. ______
Roller Sets 1. ______ 2. ______ 3. ______ Back combing 1. ______, 2. ______ 3. ______
Pivot Point 1. ________, 2. ______
Blow-comb 1. ________ 2. Curling Iron ________, 3. ________
Finger Waves 1. ________, 2. ________, 3. ________
Lab Assessment – High School

Each assignment needs to be completed and signed off as outlined below. Assessments may be completed on a model or mannequin. This packet is due on September 5th. A 5% grade reduction will be implemented for each day late. **No exceptions will be made.**

**Draping**

1) Single (Haircutting)
   - * Type of cape
   - * Turn collar inside
   - * Neck Strip (cape does not touch neck)
   - * Neck Strip (folded over)

2) Double (Chemical Services)
   - * Type of cape
   - * Turn collar inside
   - * Towel under cape (cape does not touch neck)
   - * Towel over cape

**Shampoo**

- * Cape over back of chair
- * Protects patron’s face (when wetting hair)
- * Shampoo application
- * Manipulations

**Scalp Treatments**

- * Sections
- * Brushing
- * Application of scalp lotion
- * Manipulations

**Blow Drying**

- * Clean partings
- * Curled at the base
- * Ends of hair were controlled
- * Picked up correct amount of hair for the brush
- * Hair completely dry
Eyebrows

1) Waxing
* Proper set-up
* Protection of client’s clothing and etc.
* Preparation of skin
* Application and removal of wax
* Removal of wax

2) Arching
* Proper set-up
* Protection of client’s clothing and etc.
* Preparation of skin
* Tweezing technique
* Discarding of tweezed hair
* Skin held taut

Lash and Brow Tint
* Proper set-up
* Protection of client’s clothing and skin
* Procedure (steps)
* Application of product

Pedicuring
* Proper set-up
* Procedure (steps)
* Shaping on nails
* Exfoliation
* Massage
* Application of polish
* Sanitation

Manicuring
* Proper table set-up
* Shaping of nails
* Treatment of cuticles
* Application of polish
* Sanitation
Permanent Waving (Straight back)

* Rod parallel to the head
* Rod bands do not crease the hair
* Rods are wrapped with sufficient tension to shape hair
* Partings between blockings (vertical) are even
* Partings between rods (horizontal) are even and blockings are not wider than the rod used

Weave

* Direction of partings around the face (sides of face)
* Size of color partings for a natural looking weave
* Direction of partings and placement of foils on top section of head
* Foils folded properly
* How id product applied near scalp area
* Proper application of product on foil
College of Agriculture and Applied Sciences

School of Applied Sciences, Technology and Education (ASTE)

Utah State University Eastern

Assessment Plan

For the Undergraduate Program in
Diesel and Heavy Equipment Mechanics

Fall 2013
Department Profile

Overview
USU Eastern’s Heavy Equipment and Trucking (HETR) program is an open enrollment, open exit program designed to provide professional operator training for excavation equipment and commercial highway vehicles. The program is designed to prepare students for careers in both the construction and transportation industries. USU Eastern’s HETR instructors train students through both classroom and hands-on instruction. By having access to equipment and instruction relevant to today’s construction and transportation industries, students who complete and receive certificates of completion through the USU Eastern HETR program are ready for employment in today’s ever expanding construction and transportation industries.

Mission
Our mission at USU Eastern HETR is two-fold. At USU Eastern HETR we want to develop operators and drivers, who are trained and ready for today’s construction and transportation industry. Second we want to provide employers in the construction and transportation industries with a reliable source for qualified and prepared employees.

Vision
Our vision is to see individuals’ lives change by giving them the training required to meet the needs of today’s construction and transportation industry, which will allow them to secure stable employment.

America relies on heavy equipment operators to build and maintain its highways, roads and infrastructure. America relies on truck drivers to haul and deliver supplies and resources. Because America relies on these skilled men and women there is always a demand for ready to work, well-trained drivers and operators. Eastern Utah’s largest contribution to America’s economy is energy production. The skilled workforce needed to produce energy includes heavy equipment operators and licensed commercial vehicle drivers. By developing quality drivers and operators who have the required licenses and
skills that make them ready to work in the industry, USU Eastern’s HETR program is a valuable resource for companies in need of employees that are ready to work. USU Eastern’s HETR training program arms individuals with the skills and knowledge that will help them have a career in transportation and construction industry. Students who complete USU Eastern HETR programs are not only prepared to work in eastern Utah but anywhere in the nation.

**What we provide**

USU Eastern’s HETR programs are built for the traditional and non-traditional student alike, yet the majority of the students that enter the program are non-traditional. Students have the ability to register at any time because the programs are open-enrollment programs. The programs offer up to 14 weeks of training but they are competency based so that students can learn at an accelerated pace if they wish. This is attractive to students who wish to complete their training in order to secure employment. The programs are designed so that classroom instruction is given between 8:00am – 12:00pm and the skills application training is given from 1:00pm – 4:00pm Monday thru Thursday. Although this schedule design works well for most students is can be difficult for the non-traditional student that must work some time during the day in addition to attending the programs courses. In order to accommodate the non-traditional student in this situation, the instructors have the ability and are willing to adjust classroom and skills training to meet the students’ needs.

The facilities, equipment and resources that USU Eastern HETR students have access to are the same as those found in the work place. Because the trucks and equipment student use and learn with are the same as what they will find in industry they are ready and prepared to perform in the workplace upon course completion. Students are taught lessons and theory in the classroom by instructors who have learned those lessons while working in the industry themselves. The theories and lessons taught are then learned by students through hands on training both in simulated and real workplace situations.
In addition to providing 14-week training courses for students enrolled in the HETR program, the HETR program also provides third-party CDL testing for individuals who have earned the appropriate learners permit and feel that they can pass the required skills and pre-trip test with a third party tester. These tests provide an additional source of income to the USU Eastern HETR programs.

**Critical Issues**

The USU Eastern HETR program has developed a very good working relationship with Vocational Rehabilitation and the Department Workforce Services. These two agencies direct individuals to our program and help provide funding for them. The relationship that HETR has with these agencies is critical because the majority of the HETR students come through them. USU Eastern HETR values the support of these two agencies and hopes to continue these relationships. One of the draw-backs of having the majority of HETR’s students come from one source is that, if for some reason those agencies could not direct students to the program, USU Eastern’s HETR would suffer a substantial loss in student numbers.

In addition to recruiting and securing students for the HETR programs, staying current with the industry trends and advances is critical. In order for the HETR instructors to teach and prepare students for the future, there must be a concerted effort on the part of the HETR faculty to study, learn and apply the new industry trends and advances with in the HETR program. Developing course curriculum that incorporates current and relevant industry techniques and standards will ensure that the HETR program stays a sought after and reliable training program.

To accomplish its mission, USU Eastern HETR must cultivate a string working relationship with both local and national construction and transportation employers. Employers who find qualified and well trained people through the HETR program will return to USU Eastern as a resource for employees that can meet their needs. When employers look to USU Eastern for employees, potential students will know that the USU Eastern HETR program can help them change their lives.
USU Eastern’s HETR programs are directly affected by the ebbs and flows of the local, state and national economies. The economy drives both the construction and transportation industries. With the increase of government regulations concerning environmental protection and air quality the trucking and construction industries have been change dramatically. The new regulations have increased material, production and delivery costs and therefore companies need to be more efficient and effective. In order to be more efficient and effective, companies are not hiring as often and they tend to be more selective in who they hire. USU Eastern’s HETR programs student enrollment numbers are impacted by the economy. The effects of government regulations and the economy are out of the HETR program’s control and it presents a challenge for the program as far as new student recruitment is concerned. When the economy is down, job opportunities tend to follow. USU Eastern HETR can meet this challenge by informing individuals in the job market that quality training can help them secure employment during economic down turns. The HETR program can also help employers find quality people who will help them be more efficient and productive.

**Priorities**

USU Eastern’s HETR programs have a track record of excellence and the instructors that teach and train within the programs have proven that they can produce qualified operators and drivers. In order for the HETR programs to continue to have success, the programs should focus on three main priorities: student recruitment, employer recruitment and continued faculty training/education.

**Student Recruitment:** Every effort will be made to maintain the healthy relationships that exist between Vocational Rehabilitation, The Department of Workforce services and USU Eastern. The support given to the HETR program by these two agencies is critical but other sources of student enrollment should be sought and found to ensure the HETR program remains viable.

To help bolster student enrollment for the HETR programs attention to other student sources will need to be a priority. The HETR program should ensure that USU Eastern
recruiters and ambassadors are equipped with the information and resources that they need to inform potential students of the USU Eastern HETR programs and the opportunities that it provides students.

The HETR faculty is willing to attend job fairs and recruitment activities throughout the State and efforts will be made in locating dates, times and location of such gathering and the appropriate contacts made so that USU Eastern HETR is represented.

**Employer Recruitment:** One of the characteristics of a successful training program is that the students who complete their training through that program finds and secures employment and proves themselves to be a valuable asset to the company that hires them. Employers will look for potential employees where they know those employees are quality trained and certified. In order to assist students in finding employment, the training they receive should meet or exceed the industry standard. In order to develop a training program that is attractive to students and employers alike USU Eastern HETR will use the recommendations made by a Program Advisory Committee (PAC). PAC is a group of lead professionals who work in the construction and transportation industries and meet together a few times per year with the HETR faculty to discuss the needs of employers within those industries. By using the recommendations made by the PAC committee as the core for its program curriculum USU Eastern will ensure the training they are giving will fit the needs of both the students and Employers.

**Faculty Training/Education:** Advances in technology and production processes require that training facilities change with the times and make their programs relevant to the current industry standards. There are a number of ways for the HETR program faculty to stay current on technology and production advances. By joining industry organizations such as The Utah Trucking Association and Associated General Contractors (AGC) the USU Eastern HETR program will receive up to date information on industry trends and advances. These organizations promote and sponsor educational and training seminars for industry leaders. It would benefit the HETR program to attend such seminars.
Appendix 6A

Supporting Documents

Equipment Information, Syllabi, Program Faculty Information, and Enrollment
USU Eastern Heavy Equipment/Trucking

Facilities

220 W. 3430 S. HWY 10

Price, Utah, 84501

Building Located @ 220 W. 3430 S. HWY 10 Price Utah, 84501

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## USU EASTERN HETR
### TRUCKING FLEET
#### 02/2014

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</table>
PROGRAM FACULTY

Name: Leon McElprang
Address: 3430 South 220 West
          Highway 10
          Price, UT 84501

Telephone: (435)637-2201 Office
           (435)820-6606 Cell
           (435)637-2691 Fax

Academic Degree:
Graduated from Emery High 1992
Business training at Texas A&M

Industry Credentials:
Certified UDOT third party CDL tester June 2013
Certified in Brake Adjustment
Class A CDL with Doubles, Triples and Tanker Endorsements
Forklift Safety Trained
Trench Safety Trained
Aerial Lift Truck Safety Trained
Pole Climbing Trained

Courses Taught:
Heavy Equipment, HETR 1610, 1620, 1630, 1650, and 1660
Trucking, HETR 2760, 2770, 2780, 2790

**Relevant Experience:**

13 Years working for Emery Telcom as an outside plant technician. Installed and repaired communication installations both above and below ground. Operated trenching and boring equipment. Transported equipment.

Own and operate a working cattle ranch. Own and operate various types of equipment as well as several different light to heavy duty semi-trucks.

**Job History:**

Commercial Driver License Instructor at USU Eastern 2012-Present

Heavy Equipment Instructor at USU Eastern from 2006-2013

Emery Telcom Outside Plant Technician 1993-2006
Name: Hugh Christiansen
Address: 3430 South 220 West
Highway 10
Price UT 84501

Telephone: (435)637-2690 Office
(435)749-2748 Cell
(435)637-2691 Fax

Academic Degree:

Bachelor of Science Degree from Weber State University 2001
(Construction Management)

Industry Credentials:

OSHA 10 Hour training certificate
OSHA 30 Hour training certificate
Class A CDL with Doubles, Triples, Tanker and Hazmat Endorsements
UDOT Traffic Controller Training Certificate
Forklift Training Certificate

Courses Taught:

Heavy Equipment, HETR 1610, 1620, 1630, 1650, and 1660
Relevant Experience:

14 years in the Excavation and Trucking industry as a laborer, heavy equipment operator, truck driver, crew foreman, superintendent and project manager.

Job History:

Instructor, USU Eastern August 2013 to present

Project manager with Nielson Construction in Huntington Utah 2006 to 2013

Project Manager with Regency Excavation in Ogden Utah 2000 to 2006
<table>
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<th>Name</th>
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<th>Phone</th>
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<tbody>
<tr>
<td>Karl Kraync</td>
<td>Vocational Rehab</td>
<td>(435)6362820</td>
<td>662 W Price River Dr. Price Ut, 84501</td>
</tr>
<tr>
<td>Kevin Axelgard</td>
<td>Dinosaur Tire</td>
<td>(435)637-4006</td>
<td>200 E. Main Price Ut, 84501</td>
</tr>
<tr>
<td>Kirk Danzer</td>
<td>UP&amp;L</td>
<td>(435)748-5114</td>
<td>Castle Dale Ut, 84513</td>
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<tr>
<td>Dennis Lee</td>
<td>D&amp;D Equipment</td>
<td>(435)4725116</td>
<td>1954 W. 4000 N. Spring Glen Ut, 84526</td>
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<tr>
<td>Morris Sorensen</td>
<td>Emery County Rd. Dept</td>
<td>(435)381-5450</td>
<td>Box 8891 Castle Dale, Ut, 84513</td>
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<tr>
<td>Dave Sorrel</td>
<td>Carbon Transport</td>
<td>(435)637-0500</td>
<td>1615 E. 1000S. Price Ut, 84501</td>
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<tr>
<td>Jack Leautaud</td>
<td>Undergroud Services</td>
<td>(435)637-5692</td>
<td>P.O. Box 946 Price Ut, 84501</td>
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<tr>
<td>Ty Jensen</td>
<td>KFJ Trucking</td>
<td>(435)653-3495</td>
<td>940 N. HWY 155 Cleveland Ut, 84518</td>
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<tr>
<td>Garth Frandsen</td>
<td>Nelco Contractors</td>
<td>(435)637-3495</td>
<td>4520 S. 100 W. Price Ut, 84501</td>
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<tr>
<td>Susan Etzel</td>
<td>Dept. Workforce Services</td>
<td>(435)6362303</td>
<td>475 West Price River Drive Suite 256 Price Ut, 84501</td>
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USU EASTERN
SYLLABUS FOR HETR 1610
GENERAL MAINTENANCE
4 Credit hours

Instructor: Hugh Christiansen
Division/Department: Heavy Equipment and Trucking
Office phone: (435) 637-2690
Email: hugh.christiansen@usu.edu
Office Hours: Mon-Thurs, 8:00-4:00; Fri, 8:00-12:00
Office Location: 220 West 3430 South Highway 10

Course Description:

• This course is part of the required curriculum for the Departmental Certificate Heavy Equipment and also the Heavy Equipment/Trucking Certificate of Completion.
• Students will learn to troubleshoot a variety of heavy equipment mechanical components including: engines, transmissions, final drives and electrical/battery systems.
• Students will learn general mechanical maintenance and servicing procedures for heavy equipment.
• Safety training will be emphasized in all aspects of general maintenance.

Pre-requisites:

• A desire to work hard and a dedication to safety.

Required Textbooks and Supplies:

• Earthmoving Operations – Available for the instructor
• Safety Glasses
• Leather closed toes shoes
• Gloves
Course Objectives:

- To become familiar with daily maintenance.
- To become familiar in pre-operation and post-operation equipment inspections.
- To understand and assess the importance of mechanical component lubrication.
- To participate in the minor repair of all types of equipment.
- To obtain a general knowledge of and diagnosis for electrical and mechanical systems.

Skills Required:

- The ability to pass a drug test.

Course will utilize the following criteria:

- Students will routinely perform pre-operation procedures of various pieces of heavy equipment and need to show an ability to identify existing and potential mechanical problems.
- Students will perform basic machine services and show an ability to do such.
- Students will need to demonstrate reading and writing proficiency by reading assigned workbook chapters and completing assigned worksheets and test.
- Students will be introduced to professional practices and techniques that when learned will be directly employable.
- Student wellness and safety will be a high priority. Therefore, students will be required to pass and drug test and random drug testing will be performed.

Policies and Procedures:

- Daily attendance is required.
- The amount of lecture versus practical experience will vary each week depending on the availability of projects and weather conditions.
- Students are required to keep current in their work book assignments.
- Plagiarism and cheating will not be tolerated.

Support Resources:

- The USU library has several books and periodicals that students can read to help them understand the operation and use of heavy equipment.
Located in the heavy equipment facility, there are many publications and videos that students may have access to for learning help.

**Outcome Assessment:**

- This class is a presentation and discussion setting. Students will be asked to give his or her input on the discussion topics. Students will be asked to perform specific maintenance and service tasks as well as complete worksheet assignments to evaluate comprehension of course objectives.

**Grading Practices:**

- Grades will be determined on a 100 point scale as follows:
  - 90 Points or above – A
  - 80 Points or above – B
  - 70 Points or above – C
  - 60 Points or above – D
  - Below 60 is Failing

- Total possible points are shown below. The student’s total score will be the sum of their score in each of the listed areas.
  - Attendance
  - Chapter 1 worksheet from Earth Moving Operations textbook
  - Chapter 1 tests & final test (Must be taken during finals week)
  - Equipment Maintenance Evaluation

  - 20 pts.
  - 20 pts.
  - 30 pts.
  - 30 pts.

**Topical Outline for the Course:**

- This course is an open entry course. On a daily basis, material will be presented in the course by the instructor. The topics will range from machinery inspection, service, safety practices and operation.
- Students are expected to follow the chapter outlines in the text. Complete all assignments and participate in the daily discussions.
- Students will spend time observing and operating equipment when not in class room discussions or completing textbook work.

**Accommodations for Students with Disabilities:**

If a student has a disability that qualifies under the Americans with Disabilities Act (ADA) and requires accommodations, he/she should contact the Disability Resource Center for information on appropriate policies and procedures. Disabilities covered under the ADA may include learning,
psychiatric, physical disabilities, or chronic health disorders. Students can contact DCR if they are not certain whether a medical condition/disability qualifies. You may contact the DRC by phone (435)613-5337, email karl.burnside@usu.edu or visit the office located at JLSC223.

Student counseling services are also available in the Office of Student Success. Please contact Darrin Brandt by phone (435)613-5670 or email at Darrin brandt@usu.edu to set up and appointment. This is a free service to USU Eastern students.
Instructor: Hugh Christiansen
Division/Department: Heavy Equipment and Trucking
Office phone: (435)-637-2690
Email: hugh.christiansen@usu.edu
Office Hours: Mon-Thurs, 8:00-4:00; Fri, 8:00-12:00
Office Location: 220 West 3430 South Highway 10

Course Description:

• This course is part of the required curriculum for the Departmental Certificate Heavy Equipment and also the Heavy Equipment/Trucking Certificate of Completion.
• Students will learn theory and practical operation frontend loader and related pieces of equipment.
• Students will demonstrate all phases of operation from pre-operation to post-operation inspections, safety operation, truck loading, rough grading excavation, refueling, lubrication and field troubleshooting.

Pre-requisites:

• A desire to work hard and a dedication to safety.

Required Textbooks and Supplies:

• Earthmoving Operations – Available for the instructor
• Safety glasses
• Leather, close toed shoes
• Gloves
Course Objectives:

- To become familiar with daily maintenance and inspection.
- To learn and apply safety precautions while operating a loader.
- To become proficient at smoothly filling and emptying the loader bucket.
- To become proficient at backfilling, grading and leveling a construction site.
- To become proficient at loading and dumping the bucket at a fill pile or a haul truck.

Skills Required:

- The ability to pass a drug test.

Course will utilize the following criteria:

- Students will routinely perform pre-operation procedures on a frontend loader and need to show an ability to identify existing and potential mechanical problems.
- Students will perform basic machine services and show an ability to do such.
- Students will need to demonstrate reading and writing proficiency by reading assigned workbook chapters and completing assigned worksheets and test.
- Students will be introduced to professional practices and techniques that when learned will be directly employable.
- Student wellness and safety will be a high priority. Therefore students will be required to pass and drug test and random drug testing will be performed.

Policies and Procedures:

- Daily attendance is required.
- The amount of lecture versus practical experience will vary each week depending on the availability of projects and weather conditions.
- Students are required to keep current in their work book assignments.
- Plagiarism and cheating will not be tolerated.

Support Resources:

- The USU library has several books and periodicals that students can read to help them understand the operation and use of heavy equipment.
- Located in the heavy equipment facility, there are many publications and videos that students may have access to for learning help.
**Outcome Assessment:**

- This class is a presentation, discussion and hands on setting. Students will be asked to give his or her input on the discussion topics, complete worksheet assignments and pass written tests and perform specific maintenance and service tasks and pass the instructor's operation test to evaluate comprehension of course objectives.

**Grading Practices:**

- Grades will be determined on a 100 point scale as follows:
  
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<td>81 Points or above</td>
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<td>71 Points or above</td>
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<td>61 Points or above</td>
<td>D</td>
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<td>Below 60 is Failing</td>
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- Total possible points are shown below. The student's total score will be the sum of their score in each of the listed areas.
  
  o Attendance  
    20 pts.
  o Chapter 5, 6, & 10 worksheets from Earth Moving Operations textbook  
    20 pts.
  o Earth Moving Operations chapter tests 5, 6 & 10 and final test  
    30 pts.
  o Equipment Operation Evaluation  
    30 pts.

**Topical Outline for the Course:**

- This course is an open entry course. On a daily basis, material will be presented in the course by the instructor. The topics will range from machinery inspection, service, safety practices and operation.
- Students are expected to follow the chapter outlines in the text. Complete all assignments and participate in the daily discussions.
- Students will spend time observing and operating equipment when not in class room discussions or completing textbook work.

**Accommodations for Students with Disabilities:**
If a student has a disability that qualifies under the Americans with Disabilities Act (ADA) and requires accommodations, he/she should contact the Disability Resource Center for information on appropriate policies and procedures. Disabilities covered under the ADA may include learning, psychiatric, physical disabilities, or chronic health disorders. Students can contact DCR if they are not certain whether a medical condition/disability qualifies. You may contact the DRC by phone (435)613-5337, email karl.burnside@usu.edu or visit the office located at JLSC223.

Student counseling services are also available in the Office of Student Success. Please contact Darrin Brandt by phone (435)613-5670 or email at Darrin brandt@usu.edu to set up an appointment. This is a free service to USU Eastern students.
USU EASTERN
SYLLABUS FOR HETR 1630
TRACTOR LOADER BACKHOE OPERATION

2 Credit hours

Instructor: Hugh Christiansen
Division/Department: Heavy Equipment and Trucking
Office phone: (435) 637-2690
Email: hugh.christiansen@usu.edu
Office Hours: Mon-Thurs, 8:00-4:00; Fri, 8:00-12:00
Office Location 220 West 3430 South Highway 10

Course Description:

• This course is part of the required curriculum for the Departmental Certificate Heavy Equipment and also the Heavy Equipment/Trucking Certificate of Completion.
• Students will learn theory and practical operation of tractor loader backhoe and related pieces of equipment, demonstrate all phases of operation from pre-operation to post-operation inspections, safety operation, trenching, demolition, truck loading, grading, refueling, lubrication and field troubleshooting.

Pre-requisites:

• A desire to work hard and a dedication to safety.

Required Textbooks and Supplies:

• Earthmoving Operations – Available for the instructor
• Safety Glasses
• Leather closed toe shoes
• Gloves
Course Objectives:

• To become familiar with daily maintenance and inspection.
• To learn and apply safety precautions while operating a tractor loader backhoe.
• To become proficient at smoothly filling and emptying the loader bucket.
• To become proficient at backfilling, grading and leveling a construction site.
• To become proficient at loading and dumping the bucket at a fill pile or a haul truck.
• To become familiar with and demonstrate trench safety.
• To become proficient at trench excavation.

Skills Required:

• The ability to pass a drug test.

Course will utilize the following criteria:

• Students will routinely perform pre-operation procedures on a tractor loader backhoe and need to show an ability to identify existing and potential mechanical problems.
• Students will perform basic machine services and show an ability to do such.
• Students will need to demonstrate reading and writing proficiency by reading assigned workbook chapters and completing assigned worksheets and test.
• Students will be introduced to professional practices and techniques that when learned will be directly employable.
• Student wellness and safety will be a high priority. Therefore students will be required to pass and drug test and random drug testing will be performed.

Policies and Procedures:

• Daily attendance is required.
• The amount of lecture versus practical experience will vary each week depending on the availability of projects and weather conditions.
• Students are required to keep current in their work book assignments.
• Plagiarism and cheating will not be tolerated.

Support Resources:
• The USU library has several books and periodicals that students can read to help them understand the operation and use of heavy equipment.
• Located in the heavy equipment facility, there are many publications and videos that students may have access to for learning help.

**Outcome Assessment:**

• This class is a presentation, discussion and hands on setting. Students will be asked to give his or her input on the discussion topics, complete worksheet assignments and pass written tests and perform specific maintenance and service tasks and pass the instructor’s operation test to evaluate comprehension of course objectives.

**Grading Practices:**

• Grades will be determined on a 100 point scale as follows:
  92 Points or above – A
  82 Points or above – B
  72 Points or above – C
  62 Points or above – D
  Below 60 is Failing
• Total possible points are shown below. The student’s total score will be the sum of their score in each of the listed areas.
  o Attendance 20 pts.
  o Chapter 7, 8, & 9 worksheets from Earth Moving Operations textbook; Operating Techniques worksheets 1 & 2 20 pts.
  o Earth Moving Operations chapter tests 7, 8, &9 and final test 30 pts.
  o Equipment Operation Evaluation 30 pts.

**Topical Outline for the Course:**

• This course is an open entry course. On a daily basis, material will be presented in the course by the instructor. The topics will range from machinery inspection, service, safety practices and operation.
• Students are expected to follow the chapter outlines in the text. Complete all assignments and participate in the daily discussions.
• Students will spend time observing and operating equipment when not in class room discussions or completing textbook work.

**Accommodations for Students with Disabilities:**
If a student has a disability that qualifies under the Americans with Disabilities Act (ADA) and requires accommodations, he/she should contact the Disability Resource Center for information on appropriate policies and procedures. Disabilities covered under the ADA may include learning, psychiatric, physical disabilities, or chronic health disorders. Students can contact DCR if they are not certain whether a medical condition/disability qualifies. You may contact the DRC by phone (435)613-5337, email karl.burnside@usu.edu or visit the office located at JLSC223.

Student counseling services are also available in the Office of Student Success. Please contact Darrin Brandt by phone (435)613-5670 or email at Darrin brandt@usu.edu to set up and appointment. This is a free service to USU Eastern students.
USU EASTERN
SYLLABUS FOR HETR 1650
MOTOR GRADER OPERATION

2 Credit hours

Instructor: Hugh Christiansen
Division/Department: Heavy Equipment and Trucking
Office phone: (435) 637-2690
Email: hugh.christiansen@usu.edu
Office Hours: Mon-Thurs, 8:00-4:00; Fri, 8:00-12:00
Office Location: 220 West 3430 South Highway 10

Course Description:

• This course is part of the required curriculum for the Departmental Certificate Heavy Equipment and also the Heavy Equipment/Trucking Certificate of Completion.

• Students will learn theory and practical operation of a motor grader. The student will demonstrate all phases of operation from pre-operation to post-operation inspections, safety operation, finish grading, road maintenance, snow removal, grade stake reading, refueling, lubrication and field troubleshooting.

Pre-requisites:

• A desire to work hard and a dedication to safety.

Required Textbooks and Supplies:

• Earthmoving Operations – Available for the instructor
• Safety Glasses
• Leather, close toed shoes
• Gloves
**Course Objectives:**

- To become familiar with daily maintenance and inspection.
- To learn and apply safety precautions while operating a Motor Grader.
- To become proficient at moving and spreading different type of material.
- To become proficient at grading slopes, level surfaces, road maintenance and ditching.

**Skills Required:**

- The ability to pass a drug test.

**Course will utilize the following criteria:**

- Students will routinely perform pre-operation procedures on a motor grader and need to show an ability to identify existing and potential mechanical problems.
- Students will perform basic machine services and show an ability to do such.
- Students will need to demonstrate reading and writing proficiency by reading assigned workbook chapters and completing assigned worksheets and test.
- Students will be introduced to professional practices and techniques that when learned will be directly employable.
- Student wellness and safety will be a high priority. Therefore students will be required to pass and drug test and random drug testing will be performed.

**Policies and Procedures:**

- Daily attendance is required.
- The amount of lecture versus practical experience will vary each week depending on the availability of projects and weather conditions.
- Students are required to keep current in their work book assignments.
- Plagiarism and cheating will not be tolerated.

**Support Resources:**

- The USU library has several books and periodicals that students can read to help them understand the operation and use of heavy equipment.
- Located in the heavy equipment facility, there are many publications and videos that students may have access to for learning help.
**Outcome Assessment:**

- This class is a presentation, discussion and hands on setting. Students will be asked to give his or her input on the discussion topics, complete worksheet assignments and pass written tests and perform specific maintenance and service tasks and pass the instructor’s operation test to evaluate comprehension of course objectives.

**Grading Practices:**

- Grades will be determined on a 100 point scale as follows:
  93 Points or above – A
  83 Points or above – B
  73 Points or above – C
  63 Points or above – D
  Below 60 is Failing
- Total possible points are shown below. The student’s total score will be the sum of their score in each of the listed areas.
  - Attendance 20 pts.
  - Chapter 4, 11, & 12 worksheets from Earth Moving Operations textbook 20 pts.
  - Earth Moving Operations chapter tests 4, 11 &12 and Final test 30 pts.
  - Equipment Operation Evaluation 30 pts.

**Topical Outline for the Course:**

- This course is an open entry course. On a daily basis, material will be presented in the course by the instructor. The topics will range from machinery inspection, service, safety practices and operation.
- Students are expected to follow the chapter outlines in the text. Complete all assignments and participate in the daily discussions.
- Students will spend time observing and operating equipment when not in classroom discussions or completing textbook work.

**Accommodations for Students with Disabilities:**

If a student has a disability that qualifies under the Americans with Disabilities Act (ADA) and requires accommodations, he/she should contact the Disability Resource
Center for information on appropriate policies and procedures. Disabilities covered under the ADA may include learning, psychiatric, physical disabilities, or chronic health disorders. Students can contact DCR if they are not certain whether a medical condition/disability qualifies. You may contact the DRC by phone (435) 613-5337, email karl.burnside@usu.edu or visit the office located at JLSC223.

Student counseling services are also available in the Office of Student Success. Please contact Darrin Brandt by phone (435) 613-5670 or email at Darrin brandt@usu.edu to set up and appointment. This is a free service to USU Eastern students.
USU EASTERN
SYLLABUS FOR HETR 1660
DOZER OPERATION

2 Credit hours

Instructor: Hugh Christiansen
Division/Department: Heavy Equipment and Trucking
Office phone: (435) 637-2690
Email: hugh.christiansen@usu.edu
Office Hours: Mon-Thurs, 8:00-4:00; Fri, 8:00-12:00
Office Location: 220 West 3430 South Highway 10

Course Description:

- This course is part of the required curriculum for the Departmental Certificate Heavy Equipment and also the Heavy Equipment/Trucking Certificate of Completion.
- Students will learn theory and practical operation of a crawler dozer. Demonstrate all phases of operation from pre-operation to post-operation inspections, safety operation, excavation demolition, slot dozing, slope grading rough grading, refueling, lubrication, and field troubleshooting.

Pre-requisites:

- A desire to work hard and a dedication to safety.

Required Textbooks and Supplies:

- Earthmoving Operations – Available for the instructor
- Safety Glasses
- Leather, close toed shoes
- Gloves
Course Objectives:

- To become familiar with daily maintenance and inspection.
- To learn and apply safety precautions while operating a dozer.
- To become proficient at smoothly moving various types of materials.
- To become proficient at backfilling, grading and leveling a construction site.
- To become familiar with and demonstrate slope grading safety.

Skills Required:

- The ability to pass a drug test.

Course will utilize the following criteria:

- Students will routinely perform pre-operation procedures on a dozer and need to show an ability to identify existing and potential mechanical problems.
- Students will perform basic machine services and show an ability to do such.
- Students will need to demonstrate reading and writing proficiency by reading assigned workbook chapters and completing assigned worksheets and test.
- Students will be introduced to professional practices and techniques that when learned will be directly employable.
- Student wellness and safety will be a high priority. Therefore students will be required to pass and drug test and random drug testing will be performed.

Policies and Procedures:

- Daily attendance is required.
- The amount of lecture versus practical experience will vary each week depending on the availability of projects and weather conditions.
- Students are required to keep current in their work book assignments.
- Plagiarism and cheating will not be tolerated.

Support Resources:

- The USU library has several books and periodicals that students can read to help them understand the operation and use of heavy equipment.
- Located in the heavy equipment facility there are many publications and videos that students may have access to for learning helps.

Outcome Assessment:
• This class is a presentation, discussion and hands on setting. Students will be asked to give his or her input on the discussion topics, complete worksheet assignments and pass written tests and perform specific maintenance and service tasks and pass the instructor’s operation test to evaluate comprehension of course objectives.

**Grading Practices:**

• Grades will be determined on a 100 point scale as follows:
  94 Points or above – A  
  84 Points or above – B  
  74 Points or above – C  
  64 Points or above – D  
  Below 60 is Failing

• Total possible points are shown below. The student’s total score will be the sum of their score in each of the listed areas.
  o Attendance  
    20 pts.  
  o Chapter 2, 3, & 13 worksheets from Earth Moving Operations textbook  
    20 pts.  
  o Earth Moving Operations chapter tests 2, 3 & 13 and Final test  
    30 pts.  
  o Equipment Operation Evaluation  
    30 pts.

**Topical Outline for the Course:**

• This course is an open entry course. On a daily basis, material will be presented in the course by the instructor. The topics will range from machinery inspection, service, safety practices and operation.
• Students are expected to follow the chapter outlines in the text. Complete all assignments and participate in the daily discussions.
• Students will spend time observing and operating equipment when not in class room discussions or completing textbook work.

**Accommodations for Students with Disabilities:**

If a student has a disability that qualifies under the Americans with Disabilities Act (ADA) and requires accommodations, he/she should contact the Disability Resource Center for information on appropriate policies and procedures. Disabilities covered under the ADA may include learning, psychiatric, physical
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USU Eastern
Syllabus for HETR 2760
Dump and Trailering
Spring Semester 2014
2 Credit Hours

Instructor: Leon McElprang, leon.mcelprang@usu.edu
Division / Department: Heavy Equipment and Trucking
Office Phone: (435) 637-2201 Cell: (435) 820-6606 Fax: (435) 637-2691
Office and Class Hours: Mon – Thurs, 8:00 – 4:00
Class Location: 220 West 3430 South State Road 10

Type of Course:

This course is part of the required curriculum for a Heavy Equipment / Trucking Department Certificate.

Course Description:

The student will learn theory and practical operation of a dump truck and drop deck low-boy trailer, the safest way to load and lash each piece of equipment for transport, P.T.O. operation, overhead hazards, safe backing, fueling, lubrication, chain and boomer safety, tire care and safety.

Pre-requisites:

Students must obtain the CDL driving permit.
Students must pass the DOT physical and a drug test.

Required Textbooks and Supplies:

Utah Commercial Vehicle Driver Handbook
Bumper to Bumper

Course Objectives:

Understand all aspects of a pre-trip and post trip inspection.
Become proficient at backing a trailer.
Become proficient at sight side alley docking.
Become skillful at straight line backing and offset to right and left parking.
Become skilled at having a truck loaded and the proper methods of dumping.

Skills: ___
Students will become skilled in all aspects of driving. This will include knowledge of safe operation, proficient gearing, loading, docking and proper braking.

**Course will utilize the following criteria:**

The student will practice critical thinking by learning to diagnose a variety of mechanical problems and repair them.

Students will demonstrate reading and writing proficiency by reading the work book and turning in the required work sheets.

Values are introduced into the course by an attempt to instill in students a strong work ethic.

Vocational development will include providing the student with skills that are directly employable.

Student wellness is an important aspect. Students will be required to pass both a physical test and a drug screen. Random drug screening is also performed.

**Policies and Procedures:**

Daily attendance is required.

The amount of lecture versus practical experience will vary each week depending on the availability of projects and weather conditions.

Students are required to keep current on their work book assignments.

Plagiarism and cheating will not be tolerated.

**Support Resources:**

The library has many books and periodicals that will help students understand the operation and use of heavy equipment and trucking.

At the trucking facility, there are many publications and videos that students may have access to.

**Outcomes Assessment:**

Outcomes will be assessed and deemed proficient when the student completes all workbook assignments, passes the written tests and shows adequate proficiency at diagnosis and repair as assessed by the instructor.
Grading Practices:

Grades will be determined on a 100 point scale as follows:
90 points or above - A
80 points or above - B
70 points or above - C
60 Points or above - D
Below 60 points - F

Total possible points are shown below. The students' total score will be the sum of their score in each of the listed:

- Attendance: 10 points
- Final Test: 10 points
- Truck and Trailer backing skills test: 80 points

Topical Outline for the Course:

This course is an open entry / open exit course. On a daily basis, material will be presented in the course by the instructor. The topics will range from operation of equipment to safety discussions. The student is expected to follow the chapter outlines in the text, complete all assignments and participate in the daily discussions. The remainder of the time is to be spent observing and operating the trucks.

Accommodations for Students with Disabilities

If a student has a disability that qualifies under the Americans with Disabilities Act (ADA) and requires accommodations, he/she should contact the Disability Resource Center for information on appropriate policies and procedures. Disabilities covered under the ADA may include learning, psychiatric, physical disabilities, or chronic health disorders. Students can contact DCR if they are not certain whether a medical condition/disability qualifies. You may contact the DRC by phone (435) 613-5337, email karl.burnside@usu.edu or visit the office located at JLSC223.

Student counseling services are also available in the Office of Student Success. Please contact Darrin Brandt by phone (435) 613-5670 or email at Darrin brandt@usu.edu to set up and appointment. This is a free service to USU Eastern students.
USU Eastern  
Syllabus for HETR 2770  
Laws and Regulations  
Spring Semester 2014  
4 Credit Hours

Instructor: Leon McElprang, leon.mcelprang@usu.edu  
Division / Department: Heavy Equipment and Trucking  
Office Phone: (435) 637-2201 Cell: (435) 820-6606 Fax: (435) 637-2691  
Office and Class Hours: Mon – Thurs, 8:00 – 4:00  
Class Location: 220 West 3430 South State Road 10

**Type of Course:**

This course is part of the required curriculum for a Heavy Equipment / Trucking Department Certificate.

**Course Description:**

This is a theory course which describes laws and regulations, defensive driving, principles of haulage and operation of equipment, safety procedures, and preparation for examination. This course with HETR 2780 and HETR 2790 is intended to prepare students for their Commercial Driver’s License (CDL) and employment in the trucking industry. This course is intended to provide the material and experience necessary to pass the written exam for the class A Commercial Drivers License.

**Pre-requisites:**

DOT Physical

**Required Textbooks and Supplies:**

Utah Commercial Vehicle Driver Handbook  
Bumper to Bumper

**Course Objectives:**

Prepare and pass the CDL test.  
Become familiar with license laws and regulations.  
Become skilled at entering data in a log book and keeping it current.  
Understand the requirements for optional drivers license endorsements.  
Understand the laws in regard to weight and load limits.  
Understand who is liable for different legal problems associated with truck driving.
**Skills:**

Students will become legally knowledgeable. This will include knowledge of safe operation, licensing requirements and driving regulation.

**Course will utilize the following criteria:**

The student will practice critical thinking by learning to anticipate adverse driving conditions, safety problems and traffic surprises and always have a possible solution in mind.

Students will demonstrate reading and writing proficiency by reading the work book and turning in the required work sheets.

Values are introduced into the course by an attempt to instill in students a strong work ethic.

Vocational development will include providing the student with skills that are directly employable.

Student wellness is an important aspect. Students will be required to pass both a DOT physical test and a drug screen. Random drug screening is also performed.

**Policies and Procedures:**

Daily attendance is required.

The amount of lecture versus practical experience will vary each week depending on the availability of projects and weather conditions.

Students are required to keep current on their work book assignments.

Plagiarism and cheating will not be tolerated.

**Support Resources:**

The library has many books and periodicals that will help students understand the operation and use of heavy equipment and trucking.

At the trucking facility, there are many publications and videos that students may access for learning help.

**Outcomes Assessment:**

Outcomes will be assessed and deemed proficient when the student passes the state CDL test and the approved driving course as evaluated by the instructor.

**Grading Practices:**
Grades will be determined on a 100 point scale as follows:

90 points or above – A
80 points or above – B
70 points or above – C
60 Points or above – D
Below 60 points – F

Total possible points are shown below. The students’ total score will be the sum of their score in each of the listed areas:

- Attendance: 10 points
- Final Test: 10 points
- Bumper to Bumper Text Book Chapters: 80 points

**Topical Outline for the Course:**

This course is an open entry / open exit course. On a daily basis, material will be presented in the course by the instructor. The topics will range from operation of equipment to safety discussions. The student is expected to follow the chapter outlines in the text, complete all assignments and participate in the daily discussions.

The remainder of the time is to be spent observing and operating the trucks after they have obtained their learners’ permit.

**Accommodations for Students with Disabilities**

If a student has a disability that qualifies under the Americans with Disabilities Act (ADA) and requires accommodations, he/she should contact the Disability Resource Center for information on appropriate policies and procedures. Disabilities covered under the ADA may include learning, psychiatric, physical disabilities, or chronic health disorders. Students can contact DCR if they are not certain whether a medical condition/disability qualifies. You may contact the DRC by phone (435) 613-5337, email karl.burnside@usu.edu or visit the office located at JLSC223.

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USU Eastern
Syllabus for HETR 2780
Maintenance
Spring Semester 2012
3 Credit Hours

Instructor: Leon McElprang, leon.mcelprang@usu.edu
Division / Department: Heavy Equipment and Trucking
Office Phone: (435) 637-2201 Cell: (435) 820-6606 Fax: (435) 637-2691
Office and Class Hours: Mon – Thurs, 8:00 – 4:00
Class Location: 220 West 3430 South State Road 10

Type of Course:
This course is part of the required curriculum for a Heavy Equipment / Trucking Department Certificate.

Course Description:
Lubrication, fluid maintenance, tire and wheel maintenance, electrical maintenance, driving observation, and testing based on knowledge, skills, and safety attitude. This course with HETR 2770 and HETR 2790 is intended to prepare students for their Commercial Driver’s License (CDL) and employment in the trucking industry.

Pre-requisites:
A desire to work hard and have a dedication to safety.

Required Textbooks and Supplies:
Utah Commercial Vehicle Driver Handbook
Bumper to Bumper

Course Objectives:
Understand all aspects of a pre-trip and post trip inspection.
Become proficient assessing the condition and level of all fluids.
Become proficient at performing a full service of a truck and trailer.
Become skillful at diagnosing and repairing electrical and lighting problems.
Become skilled at inspecting air brake systems.

Skills:

Students will become skilled at assessing the mechanical condition of trucks and trailers by performing inspections. They will also become proficient at repairing minor mechanical and electrical problems.
Course will utilize the following criteria:

The student will practice critical thinking by learning to diagnose a variety of mechanical problems and repair them.

Students will demonstrate reading and writing proficiency by reading the work book and turning in the required work sheets.

Values are introduced into the course by an attempt to instill in students a strong work ethic.

Vocational development will include providing the student with skills that are directly employable.

Student wellness is an important aspect. Students will be required to pass both a physical test and a drug screen. Random drug screening is also performed.

Policies and Procedures:

Daily attendance is required.

The amount of lecture versus practical experience will vary each week depending on the availability of projects and weather conditions.

Students are required to keep current on their work book assignments.

Plagiarism and cheating will not be tolerated.

Support Resources:

The library has many books and periodicals that will help students understand the operation and use of heavy equipment and trucking.

At the trucking facility, there are many publications and videos that students may access for learning help.

Outcomes Assessment:

Outcomes will be assessed and deemed proficient when the student completes all workbook assignments, passes the written tests and shows adequate proficiency at diagnosis and repair as assessed by the instructor.

Grading Practices:

Grades will be determined on a 100 point scale as follows:

90 points or above – A
80 points or above – B  
70 points or above – C  
60 Points or above – D  
Below 60 points – F

Total possible points are shown below. The students’ total score will be the sum of their score in each of the listed areas:

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<tr>
<th>Area</th>
<th>Points</th>
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<tr>
<td>Attendance</td>
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<td>Truck and Trailer pre-trip inspection test</td>
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**Topical Outline for the Course:**

This course is an open entry / open exit course. On a daily basis, material will be presented in the course by the instructor. The topics will range from operation of equipment to safety discussions. The student is expected to follow the chapter outlines in the text, complete all assignments and participate in the daily discussions. The remainder of the time is to be spent observing and operating the trucks.

**Accommodations for Students with Disabilities**

If a student has a disability that qualifies under the Americans with Disabilities Act (ADA) and requires accommodations, he/she should contact the Disability Resource Center for information on appropriate policies and procedures. Disabilities covered under the ADA may include learning, psychiatric, physical disabilities, or chronic health disorders. Students can contact DCR if they are not certain whether a medical condition/disability qualifies. You may contact the DRC by phone (435) 613-5337, email karl.burnside@usu.edu or visit the office located at JLSC223.

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USU Eastern
Syllabus for HETR 2790
Behind the Wheel
Spring Semester 2014
6 Credit Hours

Instructor: Leon McElprang, leon.mcelprang@usu.edu
Division / Department: Heavy Equipment and Trucking
Office Phone: (435) 637-2201 Cell: (435) 820-6606 Fax: (435) 637-2691
Office and Class Hours: Mon – Thurs, 8:00 – 4:00
Class Location: 220 West 3430 South State Road 10

Type of Course:

This course is part of the required curriculum for a Heavy Equipment / Trucking Department Certificate.

Course Description:

On and off highway procedures, driving, with and without loads, turning, cornering, backing, braking (gear and pedal), shifting, road speeds, traffic, signals, road signs, pre and post shift inspections. This course with HETR 2770 and 2780 is intended to prepare students for their Commercial Driver’s License (CDL) and employment in the trucking industry.

Pre-requisites:

A desire to work hard and have a dedication to safety.

Required Textbooks and Supplies:

Utah Commercial Vehicle Driver Handbook
Bumper to Bumper

Course Objectives:

Prepare and pass the CDL test.
Prepare students to pass the state approved driving course.
Become proficient at up shifting and down shifting.
Become proficient at staying in driving lanes.
Become skillful at anticipating grades and scale and descend them successfully.

Skills:
Students will become skilled in all aspects of driving. This will include knowledge of safe operation, proficient gearing, loading, docking, and proper braking.

**Course will utilize the following criteria:**

The student will practice critical thinking by learning to anticipate adverse driving conditions, safety problems, and traffic surprises and always have a possible solution in mind.

Students will demonstrate reading and writing proficiency by reading the work book and turning in the required work sheets.

Values are introduced into the course by an attempt to instill in students a strong work ethic.

Vocational development will include providing the student with skills that are directly employable.

Student wellness is an important aspect. Students will be required to pass both a DOT physical test and a drug screen. Random drug screening is also performed.

**Policies and Procedures:**

Daily attendance is required.

The amount of lecture versus practical experience will vary each week depending on the availability of projects and weather conditions.

Students are required to keep current on their work book assignments.

Plagiarism and cheating will not be tolerated.

**Support Resources:**

The library has many books and periodicals that will help students understand the operation and use of heavy equipment and trucking.

At the trucking facility, there are many publications and videos that students may have access to.

**Outcomes Assessment:**

Outcomes will be assessed and deemed proficient when the student passes the state CDL test and the approved driving course as evaluated by the instructor.

**Grading Practices:**
Grades will be determined on a 100 point scale as follows:

- 90 points or above - A
- 80 points or above - B
- 70 points or above - C
- 60 Points or above - D
- Below 60 points - F

Total possible points are shown below. The students' total score will be the sum of their score in each of the listed areas:

- Attendance 10 points
- Final Test 10 points
- Road Test Driving Evaluation 80 points

Topical Outline for the Course:

This course is an open entry / open exit course. On a daily basis, material will be presented in the course by the instructor. The topics will range from operation of equipment to safety discussions. The student is expected to follow the chapter outlines in the text, complete all assignments and participate in the daily discussions. The remainder of the time is to be spent observing and operating the trucks.

Accommodations for Students with Disabilities

If a student has a disability that qualifies under the Americans with Disabilities Act (ADA) and requires accommodations, he/she should contact the Disability Resource Center for information on appropriate policies and procedures. Disabilities covered under the ADA may include learning, psychiatric, physical disabilities, or chronic health disorders. Students can contact DCR if they are not certain whether a medical condition/disability qualifies. You may contact the DRC by phone (435)613-5337, email karl.burnside@usu.edu or visit the office located at JLSC223.

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HEAVY EQUIPMENT AND TRUCKING
Certificate of Completion

Name: ________________________________ C#
___________________________
Advisor: ______________________________ Date:
_________________________

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TOTAL 36-37
## TRUCKING PROGRAM
Departmental Certificate

Name: ______________________ C#
______________________________

Advisor: ______________________ Date:
______________________________

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**HEAVY EQUIPMENT PROGRAM**

**Departmental Certificate**

Name: ________________________________    C#
___________________________

Advisor: ______________________________    Date: _______________________
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### USU Eastern HETR Enrollment/Completion/Employment

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2.
College of Agriculture and Applied Sciences

School of Applied Sciences, Technology and Education (ASTE)

Utah State University Eastern

Assessment Plan

For the Undergraduate Program in Engineering Drafting and Design & Machine Tool Technology

Fall 2013
Drafting

The Engineering Drafting and Design Technology Program is designed to provide instruction for students pursuing entry-level employment or technical upgrading in mechanical, architectural, and construction drafting fields. Individuals interested in pursuing a career in drafting will study basic drafting standards, learn computer-aided drawing skills and acquire the knowledge necessary for the documentation of designs used for production and support of industry. USU Eastern offers a one-year Certificate of Completion in Engineering Drafting and Design Technology. Students are encouraged to complete their associate degree as well, in order to be better prepared to enter the workforce.

Highly skilled and professional drafters are in demand. Practically every type of industry requires knowledgeable and trained drafting technician who can translate the ideas and sketches of an engineer into an accurate set of drawings. Depending on the individual’s field of interest and capabilities, students who complete the requirements may find employment in any of the following types of jobs: engineering aide 1, drafting aide 1, junior drafter, mechanical drafter/designer trainee, GIS aide, architectural drafter, technical writer, or technical sales representatives.

Machine Tool Technology

Currently USU Eastern offers a one year certificate of completion in the area of Machine Tool Technology. These courses are also support courses for the automotive, diesel and welding programs. These courses are open to all students. Students in the program can develop skills in decision making, learn the much needed skill of machining and prepare themselves to enter the workforce. They will also learn the skills to ensure that productivity and quality is obtained in a safe manner.

Instructional Planning and Organization

The drafting program is designed to teach students that Technical drawings are essential to constructing everything in society from the house one lives in to the computer on a desk. These drawings, created by a draftsman, must be understood by hundreds of other people in our society. The Drafting curriculum is designed to promote understanding and application of the graphical language used in technical drawings. Drafting will provide a foundation for future employment or further educational opportunities.

The Drafting Department is characterized by the appropriate sequencing of courses which help students advance in the field. These courses in turn are consistent with the mission of the USU Eastern. The courses offered by the EDDT Department will effectively transfer to and from similar programs at other Utah State Higher Education (USHE) institutions. Course descriptions can be found in Appendix 5A.
One-year action plan

During the next year, the EDDT department will be actively involved in improving instruction and bringing relevance to the educational process. By implementing the following items and goals:

- The first item to be addressed is the need to update and maintain the CAD software used in the Engineering Drafting and Design Technology department. The update of the software is necessary to ensure relevance of the curriculum to contemporary industry standards. Employers expect graduates of USU Eastern programs to be skilled in the latest versions of CAD software.

- Second, acquire the funding needed for faculty professional development. Faculty need to participate in comprehensive training to understand the application of the software and integrate the new functionality into curriculum revisions.

- Third, we plan to identify goals and program outcomes. Some of the goals of the Drafting and design department are:
  
  1) Provide relevant occupational training to the students.
     a. By implementing recommendations of the advisory committee.
     b. By keeping the CAD software updated in the instructional lab.
     c. By keeping and reinforcing professional relationships with other institutions.
  
  2) Strengthen relationships with local employers.
     a. By keeping the communication channels open between USU Eastern and the professional community.
     b. By fully supporting the apprenticeship efforts between USU Eastern and local industries.
     c. By having an open door policy for industry.
  
  3) Maintain the appropriate curriculum to retain accreditation.

  4) Expand software technology used in the curriculum.
     a. By implementing the use of computer based assessments throughout the program.
     b. By using a digital classroom management system i.e. Canvas
     c. By continuing to use the student response system in the classroom i.e. turning point.

  5) Encourage faculty development in new related technologies.
Five-year plan

For the next five years the department will focus on the following items:

1) Maintain the hardware and physical facilities of the department.
   a. By keeping track of the equipment’s life cycle.
   b. Helping our IT department to upgrade and maintain computers
      and software.
   c. By installing and maintaining the projection equipment in the
      classrooms.
2) Revamp the drafting department, by increasing the number of courses.
   Thus allowing our students to obtain an associate of applied technology in
   Engineering Drafting Design and Manufacturing.
3) Work on the development of an associate degree in Engineering Design
   and Manufacturing.
4) Maintain the human and technical aspects of the program, and manage the
   financial resources to effectively support the learning environment.
5) Increase the recruiting efforts by visiting nearby high schools and
designing STEM activities that will bring students to our campus. Some of
the activities will be a cardboard boat race, design derby; these activities
would involve all the high schools in Carbon, Emery, Grand, and San Juan
counties.

Faculty

The drafting program instructor, Elias Perez, holds a B.S. in Education (1978) from CEBA
and a Masters in Technology Integration in Education (2009), from Western Governors
University. He has completed additional course work at Utah State University; He holds a
Secondary Teaching certificate in Utah. Mr. Perez has attended many Auto CAD,
Solidworks, Solidedge, AchiCAD, and other design software instructional conferences and
seminars.

The Machine Tool Technology instructor, Edward Callor, Is a graduate of the program,
he has been working as a machinist for Joy Global in Price Utah for the last 29 years. He
is certified in the use CNC Mills, Fagor/Fanuc/G&L-CNC Controls. He is an expert user
of lathes, mills, drill presses, grinders and other machine tools used in industry.

Utilization of Instructional Materials

Many different teaching methods are utilized by the department. All course syllabi
(example in Appendix 5B) are continually evaluated with special attention on currency of
content and educational materials. The computer work stations were recently upgraded to
provide a more state of the art work environment. The IT department is currently providing
the much needed technical support.
The program integrates theory and practice to help students understand what they are doing as they develop their drafting skills. The department is equipped with the appropriate audio visual equipment for disseminating instruction. Course work is structured so that students can advance incrementally allowing students to retain the skills learned.

The program has recently developed a web page to allow students to review basic drafting principles and skills. The development of the website containing an online tutorial to teach and reinforce basic drafting skills will be beneficial to our students. This will be an ongoing endeavor; not only to teach basic drafting principles but to incorporate other instructional materials related to the drafting field into the educational process. The need to provide accessibility to information and instruction in the drafting field is increasing due to the advances and changes in technology. Students are in need of guidance through the steps to perform various drafting procedures. The development of an online tutorial is one solution to the problem. After all, students are familiar with the use of computers, and this in turn will improve instruction and the learning outcomes of basic drafting principles.

Equipment & Supplies

The equipment used by the department was maintained and updated by the instructor. Due to the change in institutional perspective the hardware and software are currently maintained by our IT department. The instructor is helping with this aspect of the educational process in a less involved manner.

The drafting department acquired a Rapid Prototyping Machine in 2005. This machine allows students to not only design their projects in cyber space, but also bring their designs to the real world. The rapid prototyping machine was upgraded in 2013 to a soluble support machine; that allows student to design more complex models. In 2008 the drafting department obtained the funds to purchase a Laser Cutting Machine. This tool allows students to use the type of equipment they will encounter in the work place, even if it is in a much smaller scale. The department has 17 CAD work stations, 16 technical drafting tables, 2 LCD projectors, 2 plotters, and a high output laser printer.

Instructional Facilities

USU Easter has provided a very nice educational facility for the learning activities conducted by the Engineering Drafting and Design department. The program is fortunate in having two classrooms, one is set up for technical drafting and the other is set up for CAD instruction. Both areas are adequate in size and the furnishings are placed so every student has a clear view of the projection screen which greatly enhances the CAD demonstrations.

The Machine tool technology lab/classroom is in constant process of actualization. This is because the cost involved in the purchase of new equipment. The equipment that USU Eastern has is updated as funds become available. Currently the Machine & Tool
Program has ten manual Lathes, seven manual mills, one CNC Lathe and one CNC mill. The program also counts with a variety of smaller grinders, a large variety of measuring tools and miscellaneous equipment.

**Enrollments**

The purpose of the course is to prepare degree-seeking students to transfer to a four-year institution throughout the State of Utah. The course population consists of freshman college students, high school students, and non-traditional students taking refresher courses. Their ages range from 17 to 65 years.

Also enrolled in the program are students taking courses in welding, auto mechanics, pre-engineering, and art. They are highly motivated students with various personal goals and backgrounds. This was a great opportunity to incorporate different materials to reach students and provide a viable education for each.

The students taking the course have diverse needs, their needs vary due to the fact that their fields of study are not the same. Some of the students have taken drafting courses in high school; other students have never taken any courses related to drafting. Thus, their overall prior knowledge varies from basic to non-existent.

Students enrolled in the Engineering and Design classes are motivated to learn drafting and design as a vocation. Non-major students are not required to take drafting classes; the students have chosen to attend classes to increase their earning ability, to have a better job, and eventually have a better life. In addition, students feel a sense of accomplishment and pride by seeing their projects completed. The need to better their personal situations and to secure a comfortable way of life motivates students to get involved in the educational process.

Table 4: Students enrolled in Drafting.

<table>
<thead>
<tr>
<th>AY</th>
<th># of students</th>
<th># of Faculty</th>
<th>Student CON. HR.</th>
<th>FTE</th>
<th># of Graduates</th>
<th># of Grads Placed</th>
</tr>
</thead>
<tbody>
<tr>
<td>FY-13</td>
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<td>180</td>
<td>4</td>
<td>4</td>
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<tr>
<td>FY-12</td>
<td>93</td>
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<td>273</td>
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<tr>
<td>FY-11</td>
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<td>264</td>
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</tr>
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</table>

Table 5: Students enrolled in Machine Tool Technology.

<table>
<thead>
<tr>
<th>AY</th>
<th># of Students</th>
<th># of Faculty</th>
<th>Student CON. HR.</th>
<th>FTE</th>
<th># of Graduates</th>
<th># of Grads Placed</th>
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<tr>
<td>FY11</td>
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<td>1</td>
<td>90</td>
<td>6</td>
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<td>NA</td>
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</table>
Educational Assessment

The assessments are vital parts of the program. Students are presented with different types of assessments; some consists of a multiple-choice test that cover each unit, others are a performance based, measuring the students ability to perform different drafting skills. We also have some of the tests available on line. Assessments are an ongoing process in our educational process. They help us identify if the students are achieving the educational goal.
Appendix 5A

Course Descriptions
Course Descriptions

The Following courses are offered at USU Eastern in the areas of Drafting and Design and Machine tool Technologies:

- **EDDT 1010 Technical Drafting (5:3:3)**
  A beginning course, stressing the fundamentals of mechanical drafting as related to industry. Students will gain knowledge of drafting instruments and their use, lettering, geometric construction, orthographic projection, sectional views, auxiliary views, and dimensioning standards. Additional procedures in geometric dimensioning, developments, threads and fasteners will be studied. Applications will include working drawings and assembly drawings.

- **EDDT 1040 CAD Level I: Intro to CAD (3:3:0)**
  1. **Computer Literacy**
     This course covers the fundamentals of computer-aided-drafting (AutoCAD). Students will train using the basic operating features, menus, commands, file management, drawing set up, and plotting. Applications will include, orthographic projection, sections, dimensioning techniques, tracing, pictorial drawing and coordinate features will be included. Prerequisites: EDDT 1010 or Basic Drafting Knowledge

- **EDDT 1070 CAD Level II: Intro to 3-D (3:3:0)**
  2. This course is a continuation of EDDT 1040 with additional emphasis on drawing productivity. Students will utilize the advance features of AutoCAD to produce industry quality drawings. Students will use the customizing commands of AutoCAD to create custom symbols, line types, and hatch patterns, 3D modeling capabilities, third party software applications, inserting CAD drawings into work processing programs, scanning, and advance plotting techniques. Students should be prepared to spend additional time outside of class in the CAD Lab to complete their assignments. Prerequisites: EDDT 1040

- **EDDT 1100 Residential Architectural Drafting (3:3:0)**
  This course is designed to teach AutoCAD techniques utilized in architectural drafting. The student will apply architectural drafting standards in the preparation of a complete set of house plans. Students will learn architectural terminology and nomenclature as used in the building industry. Applications of advance AutoCAD features and third party software will be employed in the course. Students should have CAD skills and be prepared to spend extra time in the CAD lab to complete their assignments. Prerequisite: EDDT 1040

- **1500 Introduction to Geographic Information Systems (3:2:1)**
This course is an introduction for the Geographic Information System field. Students planning careers in Engineering, Drafting, Geology, Natural Resources, and Law Enforcement will find this elective class useful either for employment or transfer support. The course covers general GIS applications and teaches the use of software for research and problem solving. The class requires a computer lab experience. In class discussion and lecture methods are used to achieve course goals and objectives. This course is taught on an as needed basis. Prerequisite: MATH 1050 is recommended.

- **EDDT 2100 Commercial Architectural Drafting (3:3:0)**
  This course is designed to teach CAD techniques utilized in commercial architectural drafting. The student will apply architectural drafting standards in the layout, detailing, and dimensioning, of commercial small building plans. Students will learn the architectural terminology and nomenclature associated with the building industry. Applications of advanced AutoCAD features and third party software will be employed in the course. Students should have CAD skills and be prepared to spend extra time in the CAD lab to complete their assignments. Completers should have sufficient entry level skills to work in an architectural design office. Prerequisite: EDDT 1100.

- **EDDT 2620 3-D Modeling Advanced (3:3:0)**
  Descriptive geometry and orthographic projection are the graphic tools of engineering. The student will learn to use the descriptive geometry to not only determine true size and shape, but also intersections, true distances, true distances of lines space, and exact piercing points. Students will solve practical problems applying the principles of descriptive geometry. Prerequisite: EDDT 1010

- **EDDT 2650 Mechanical Blueprint Reading (2:2:0)**
  This is a support course to other departments. This is a course designed to assist the technician in the interpretation of blueprints as they apply to industrial technology. Included is the introduction of technical drawing theory and practices. Students will be exposed to a wide variety of technical drawings in order to gain information about simple or complex parts, assemblies, systems, standards, and practices used in the world of manufacturing for precision and quality control.

- **EDDT 2977 Cooperative Education (1-3:0:1-3)**
  This course provides supervised on-the-job training in engineering drafting and design technology areas. The student meets with the instructor/coordinator periodically to determine and evaluate learning objectives, hours to be worked, and credit. Prerequisite: Instructor permission.
• **EDDT 2988 Special Problems (1-3:0:1-3)**
  3. Individual work approved by instructor. The time and credit will arranged.

<table>
<thead>
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<th>Certificate of Completion (One year program)</th>
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<tr>
<td><strong>Fall Semester</strong></td>
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<td>Electives</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
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</table>

**Recommended Electives**
- EDDT 2650 2
- EDDT 2100 3

**Program Total 31**

**Machine Tool Technology courses:**

• **MACH 1010 Machine Tool Technology I (3:1:5)**
  This is an introductory course to machining. This course is designed to develop skills needed to safely operate various hand tools, power equipment and precision measuring instruments related to the machining field.

• **MACH 1020 Machine Tool Technology II (3:2:3)**
  This course is the second class in the machining program. This course is designed to develop skills needed to safely operate various power equipment and precision measuring instruments related to the machining field. The course work will include: blueprint reading, developing skills in decision making to ensure that productivity and quality is obtained in a safe manner. Additional work on the Turning Machines will entail learning how to setup and operate manual lathes, perform basic and advanced machining operations, lathe cutting tools, all threading operations both internal and external as well as work on drill presses and related tooling. Prerequisite: MACH 1010
• **MACH 1030 Machine Tool Technology III (3:2:3)**
  This course is an intermediate/advanced course to machining. This course is designed to develop skills needed to safely operate various power equipment and precision measuring instruments related to the machining field. Students will learn to read blueprints, setup and operate manual machines, perform basic and advanced machining operations, develop skills in decision making to ensure that productivity and quality is obtained in a safe manner. Prerequisite: MACH 1020.

• **MACH 1040 Machine Tool Technology IV (3:2:3)**
  This course is an advanced course to machining. This course is designed to develop skills needed to safely operate various power equipment and precision measuring instruments related to the machining field. Students will learn to read blueprints, setups and operate manual machines, perform basic and advanced machining operations, develop skills in decision making to ensure that productivity and quality is obtained in a safe manner. Students will learn advanced work on the Turning machine, manual lathes, as well as an introduction to CNC lathes and mills. The theory and practice of the vertical milling machine, vertical milling machine construction and operation, and machine setup and milling will also be covered. Prerequisite: MACH 1030

• **MACH 1050 Machine Tool Technology V (3:2:3)**
  This course is an advanced machining course designed to design for students who have reached a level of proficiency in a machine shop environment. This course will cover specialized machining processes with an emphasis on advanced milling operations. Students will read blueprints, setup and operate manual machines, perform basic and advanced machining operations, continue to develop skills in decision making to ensure that productivity and quality is obtained in a safe manner. Prerequisite: MACH 1040 or equivalent skills.

• **MACH 1140 Engine Machining Theory (2:2:0)**
  This course instructs students on the techniques of drilling, honing, boring, grinding, etc., using the machines, measuring tools and gauges associated with MACH 1160. Casting inspection and guidelines for re-use is also explained. Prerequisite: Concurrent enrollment in MACH 1160.

• **MACH 1160 Engine Machining Lab (2:0:2)**
  This course provides hands on experience operating the special equipment used to perform the machine processes done to automotive and diesel engine castings during overhaul. Students will recondition rods, cylinder heads, valve guides and valves, block deck surfaces, cylinder bores, and main bearing bores. The students will also use all precision measuring tools and gauging associated with these processes. Prerequisites: Concurrent enrollment in MACH 1140.
**Certificate of Completion (One year program)**

<table>
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<tr>
<th>Course</th>
<th>Cr.</th>
<th>Course</th>
<th>Cr.</th>
</tr>
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<tr>
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<td>MACH 1020</td>
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<td>or</td>
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<tr>
<td>MACH 1030</td>
<td>3</td>
<td>Technical Writing</td>
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</tbody>
</table>

(Choose from BUSN 2320, BUSN 2390, MINT 1110 or other COMM 2100) elective

*PROGRAM TOTAL 35*
Appendix 5B

Sample Course Syllabus
Appendix

Sample Syllabi for one of the EDDT Courses

Course Syllabus
USU Eastern
Engineering Drafting & Design Technology -1040 (EDDT)
CAD I Level I INTRO TO CAD-P10
Spring 2014
Instructor: Elias Perez
PHONE: 613-5251
OFFICE: CBB 113
Office Hours:  Posted on my office door
Time:  MWF 1:30 – 2:20 pm.
E-Mail: elias.perez@usu.edu
Credit Hours: 3 (3:3:0)

Course Outline

Catalog Description:  This is a course in the fundamentals of computer-aided drafting (CAD). The course will cover the interactive use of computers to carry out the tasks of design and drafting.

Pre-requisites:  Completion of EDDT - 1010 -Technical Drafting or consent of the instructor. Knowledge of basic views, line use, and dimensioning standards is a MUST. You can take EDDT 1010 and EDDT 1400 in the same semester.

Materials/Equipment Required: Calculator, pen and pencils and a three ring binder.

Textbook Required: Discovering Auto CAD 2014 Mark Dix & Paul Riley


(A drafting textbook would be a helpful reference also.)

Attendance Policy: Class Attendance will have a direct effect on the student’s grade. It is the responsibility of the student to make-up all missed work, as approved by the instructor.
Objectives

1. To introduce students to the visual language that allows the engineer to Communicate effectively with others.

2. To introduce students to the concepts, standards and disciplines of computer-aided drafting.

3. To apply the principles and standards of basic drafting.

Course Content: Concepts for the course will be presented through lectures, demonstrations and work on computer-aided drawings. Hands-on experience will allow students to complete the required assignments for the course. Students are expected to spend extra time in lab in order to complete the assignments on time. The computer lab in the Reeves Bldg. will be available for students to finish projects.

Instructional Topics:

Week 1. Introduction to Basic CAD Concepts.(CH.-1)
   a. Introduction to Computer-Aided Drafting
   b. Starting CAD
   c. How to use the Menus
   d. Drawing Setup
   e. Introduction to Drawing Aids

DRAWINGS 1-1 TO 1-3 ARE DUE ON FRIDAY

Week 2. Lines and Essential Tools CAD (CH.-1)
   a. Drawing and Erasing Lines
   b. Drawing Basic Geometric Shapes
   c. Using the Trim Command and Object Snap
   d. Saving Drawings and Getting Help

DRAWINGS 1-4 TO 1-6 ARE DUE ON FRIDAY

Week 3. Circles and Drawing Aides (CH.-2)
a. Drawing Display Options  
b. Placing Text on a Drawing  
c. Basic Utility Editing Commands  

DRAWINGS 2-1 TO 2-3 ARE DUE ON FRIDAY  

Week 4.  Editing the Drawing. (CH.-2)  
a. Editing Commands  
b. Using Grips  
b. Creating Multiple Entities  
c. Plotting Your Drawing  

DRAWINGS 2-4 TO 2-5 ARE DUE ON FRIDAY  

Week 5.  Layers, Colors and Line Types (CH.-3)  
a. Drawing with Coordinates  
b. Absolute Coordinates  
c. Relative Coordinates  
d. Polar Coordinates  

DRAWINGS 3-1 TO 3-3 ARE DUE ON FRIDAY  

Week 6.  Introduction to Dimensioning. (CH.-3)  
a. Dimensioning Components  
b. Using the Dimensioning Menu  
c. Dimensioning Commands  

DRAWINGS 3-4 TO 3-6 ARE DUE ON FRIDAY  

Week 7.  Templates, Copies and Arrays (CH.-4)
a. Advanced Dimensioning Controls
b. Dimension Variables
c. Dimension Utility Commands

DRAWINGS 4-1 TO 4-6 ARE DUE ON FRIDAY

Week 8. Arrows and Polar arrays (CH.-5)
  a. Visualization
  b. Using Hidden Lines
  c. Fillets and Rounds Command

DRAWINGS 5-1 TO 5-5 ARE DUE ON FRIDAY

Week 9. Object Snap (CH.-6)
  a. Advanced Dimensioning Controls
  b. Dimension Variables
  c. Dimension Utility Commands

Week 10. Text & Drawing Sectional Views (CH.-7)
  a. Types of Sections
  b. Drawing Section Lines and Hatch Patterns
  c. Introduction to the HATCH Command

Week 11 Dimensions & Drawing Conventions in Sections (CH.-8)
  a. Multiple Sections
  b. Holes in Sections
  c. Dimensioning Sections

Week 12 Polylines & Auxiliary Views (CH.-9)
  a. Theory of Auxiliary Projection
b. Auxiliary Views of Oblique Surfaces

c. Dimensioning Auxiliary Views

Week 13 Advanced Dimensioning

a. Dimensioning Standards

b. Dimensioning Notes

c. Dimensioning Conventions

**Evaluation:** Grades will be determined on a point basis compiled from the following areas:

1. Drafting Assignments and **Attendance** 60%
2. Quizzes 20%
3. Tests 20%

> *Drafting assignments will be given full credit when handed in on time and half credit if late.*

> There will be no make-up quizzes.

> Students must take the final exam in order to complete the course with a passing grade.

**The final test will be on Monday, April 28 @ 11:30 a.m. to 1:20 p.m.**

> *No student will be given an INCOMPLETE GRADE who has not earned a C or for failing to withdraw from the course by the deadline.*

> *Attendance will have a direct effect on the final grades*
The following scale will be used to determine your final grade for the course:

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<thead>
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<td>90-93</td>
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<td>60-68</td>
<td>D</td>
</tr>
<tr>
<td>Below</td>
<td>F</td>
</tr>
</tbody>
</table>

Course Learning Activities: Four types of learning activities are included to help you achieve the course objectives:

1. Participating in each class meeting taking notes, asking questions, and completing in-class assignments.
2. Reading the text and completing the assignments on time.
3. Participating in the labs to complete drawing assignments.
4. Adhering to the rules of the "CAD Lab Policy."

Academic Honesty Policy: Cheating is the practice which gives one student a dishonorable advantage over another student engaged in the same or similar course. Cheating in any form will not be tolerated. Any student determined to be cheating shall receive a failing grade on the assignment/exam in which the act occurred. A repeated offense of cheating will result in a failing grade for the course.

Library Use: The library at CEU has available books and periodicals on the subject of computer-aided drafting. You are encouraged to take the advantage of these resources to add depth to your knowledge of the world of drafting.
Cell Phones & Pagers: Please adjust your cell phones and pagers so that they do not disturb the learning atmosphere of the class.

Accommodations for Students with Disabilities:

If a student has a disability that qualifies under the Americans with Disabilities Act (ADA) and requires accommodations, he/she should contact the Disability Resource Center for information on appropriate policies and procedures. Disabilities covered by ADA may include learning, psychiatric, physical disabilities, or chronic health disorders. Students can contact DRC if they are not certain whether a medical condition/disability qualifies. You may contact the DRC by phone (435)613-5337, email karl.burnside@usu.edu or visit the office located at JLSC 223.

Student counseling services are also available in the Office of Student Success. Please contact Darrin Brandt by phone (435)613-5670 or email at darrin.brandt@usu.edu to set up an appointment. This is a free service to USU Eastern students.

Adding and Dropping Courses:

Students may add courses until the end of the second week of school at their own discretion. After the second week, students must obtain an instructor’s signature.

A student may withdraw from a course at his or her own discretion during the first two weeks of school.

Refunds for dropped courses are calculated according to the refund schedule. Students may drop courses with a 100% refund during the first three weeks of school. After the end of the third week, there is 0% refund.

Lab fees are only refundable until the day before school begins. Once school begins, lab fees are non-refundable.
<table>
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<td>CLASS EVALUATION due by 11:59pm</td>
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<td></td>
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<td>Roll Call Attendance</td>
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</table>
Appendix 5C

Program Evaluation
USU Eastern
Engineering Drafting and Design department Evaluation
Rex Thornock (Evaluator)
Drafting Instructor
Ogden-Weber Applied Technology College

FACILITIES
The training facility is as good as any I’ve seen. The room is set up to create a productive and efficient working environment and creates a positive atmosphere for learning. It implements a focus on the teacher which enables him to teach the pertinent subject matter to the students effectively. Having the students facing him at all times is important for an effective learning environment. The two-room situation is a great set up for this class. Manual drafting and computer drafting take two completely different methods to teach and this set up is a perfect way to do it. It’s also so close that Mr. Perez can literally keep an eye on both classes at the same time if there were ever a need.

The computers being used are up-to-date utilizing current software. The computer set-up was most impressive making the most use out of the fewest possible. This is impressive thinking especially in critical times of which we are facing. Finding a hardware and software which will allow one computer to be turned into six is financial genius during fiscally tough times. The computer set-up was very impressive.

I saw also, a 3D Printer of which Mr. Perez is using to aid in his teaching strategies. 3D Printers are turning into almost a teaching necessity nowadays. Students struggle tremendously with visualization, especially in the beginning. Being able to actually see the parts they are creating is becoming a teaching requirement as of late. These 3D printers are a vital tool in the teaching world and Mr. Perez is making full use of this technology.

SOFTWARE
Industry standards for the proper drafting software have been identified by the companies who sit on all our Employer Advisory Teams. The industry in this area, I’ve been told, is quite limited, but the few that are involved with the college guide them on their expectations of what the training and software should be. The main software package being used in this areas industry and that is being taught at this College is AutoCAD. Other software packages being taught which are not quite as prevalent are:

- Archicad
- Inventor
- SolidWorks
- Revit
- SolidEdge
- SketchUP
From all indications I received and observed, Mr. Perez is teaching the appropriate software packages that will make the students within the drafting program successful employees (of course we all understand that placing students into a drafting position is highly contingent upon the attitude of the completed student) in this area of Utah. Also, Mr. Perez has an almost complete knowledge of AutoCAD and its applications and has a good knowledge of the rest of the software packages being taught within the program. I understand that it is completely unreasonable to expect a complete working knowledge of all these software packages, but I know that Mr. Perez desires to achieve that level of knowledge as all of us drafting instructors do. I know that he is making a grand effort to stay on top of the ever-changing nature of all the software which in itself is an absolute nightmare. In a perfect teaching situation, there would be one teacher per software package. This is the most effective way to have expertise in all software packages. I’ve seen this in a few schools but it is very expensive to make that happen. Still, if it is at all possible, it is the best teaching situation for the students.

**INSTRUCTION**

At the time of my observation, Mr. Perez had a few students attending the class for instruction. The initial thing I noticed was when there was a question from one of them he dropped what he was doing with me and went to their aid – very impressive. Mr. Perez understands what’s truly important. Even with an important event going on like this evaluation, he understood that the students come first. I noticed that the students were very comfortable with him; they were not intimidated by him. They were getting their questions answered, making each other laugh; generally having a good time during their training. I could see that the students trusted Mr. Perez and the knowledge base that he had.

Again, the room was set-up for positive instruction. If lecturing had to be done, he had their full attention. The way the room is set up allows students to observe both demonstrative and video presentations. This creates a positive learning environment enabling Mr. Perez to get through to all students no matter what level they are at in their training.

Mr. Perez’s organization skills are top notch. The room is uncluttered and clean which creates a positive atmosphere. The curriculum is orderly and understandable helping the students know exactly what has to happen and what Mr. Perez expects of them.

Mr. Perez’s has a very creative teaching approach. He seems to always be looking for better ways to wake-up and motivate his students into being successful. Based on his personal hobbies, he is a very motivated person and he tries to instill that attribute into his students. One has to go down many different avenues to accommodate all the different personalities that students bring into a classroom and it seems that he is doing that very thing.
**SUGGESTIONS**

I noticed that the tables that the computers are sitting on are very old. It could be possible to update the tables so the room looks more modern. I think that there could also be a job listing board to aid the students looking for drafting positions.
College of Agriculture and Applied Sciences

School of Applied Sciences, Technology and Education (ASTE)

Utah State University Eastern

Assessment Plan

For the Undergraduate Program in
Heavy Equipment and Trucking

Fall 2013
Departmental Profile

Diesel Equipment Technicians repair and maintain diesel engine powered equipment. The diesel equipment technology program at USU Eastern has been designed to prepare a student for a career in either "on highway" or "off road" industry by offering theory and hands on instruction related to the common sub-systems used in both equipment areas. By taking a broad spectrum of classes, a student is able to get a feel for the diesel industry. A student will also be able to focus on a particular emphasis, while the experience in various study areas provides for diversified employment opportunities upon completion. Live work is incorporated into all courses as it becomes available and as it fits into the curriculum (see Appendix 4A)

Students get hands on opportunity to perform preventive maintenance, inspection, adjustments, and repair to air brakes, suspension systems, clutches, transmissions, differentials, and drive line components used in heavy duty diesel equipment. Once again live work is brought into the shop USUE has great industry support in this area because we have one of the few heavy truck alignment systems in Utah it is a Hunter computerized heavy duty alignment rack. Students do computerized front end and tandem alignment on medium and heavy duty trucks. Student Particular attention is given to attendance, quality of work, productivity during class time and the ability to follow detailed written procedures from service manuals. Shop safety is also stressed.

Program Assessment
In the past 4 or 5 years different teaching strategies have been tried in the class room as well as the lab. Things like students giving a presentations works well on occasion and as a break from the normal, seems to take up a lot of time if used more than once or twice a semester.

Take home quiz’s work well to get the students to study the book, but students tend to memorize the questions instead of learning to problem solve from the information provided in the book

The stratagey that seems to work best is to lecture then do hands on that day in the lab then give pop quiz’s to check learning, and finally test to finish the chapter.

Power point presentations can work really well but need to be a guide for the lecture not read to the students

Videos work well to reinforce after the fact of lecture not to replace lecture.

Program Support
USU Eastern Diesel Technology has modern equipment in many areas it’s a challenge to stay current in engines and electronics areas. These areas are rapidly changing in the
industry and teaching equipment becomes outdated in just a few years. The cost of a diesel engine can be anywhere from $10,000 for a light duty engine up to $30,000 for a heavy duty high speed truck engine. The electronics diagnostics area is becoming expensive with license renewals as high as $1800 per year.

Summer conference have been helpful in staying current with the industry trends. Working as a diesel technician in the summer really helps to stay current, Funding has been offered by USU to get outside training and is currently in the process of deciding what training would be the best.

Students

- It is strongly recommended that a student have a minimum ACT score of 16 or higher in both Math & English. Students are required to follow detailed written procedures so good reading comprehension is essential.

- Class size is on average about 16 full time students (see Table 1 for enrolment)

- AAS degree in diesel technology or students can continue on for an AS degree

- Enrolment dropped when CEU was in transition of becoming USUE. Since then it has been up

- 80% of students who start the diesel program finish while only 60% actually will get the AAS degree

- Student placement rates is near 95% in entry level jobs paying $15.00 to $25.00 per hour

Table 6: Secondary and post-secondary enrollment

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<th>Secondary</th>
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</tr>
<tr>
<td></td>
<td>Non-Credit Total</td>
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<td></td>
</tr>
</tbody>
</table>
APPENDIX 4A

Courses Offered
- **FALL Even Year: Diesel Engine Over Haul. 8 credits**
  Student learn how disassemble engines, clean, measure tolerances down to .0001 of an inch calculate oil clearance on diesel engines. Students also learn what to measure and where to measure the machined surfaces of not only the engine block, but also all other parts of the diesel engine. Students are then required to assemble the engine and test it on the engine Dynometer. The engine Dyno control is completely computerized and capable of 100HP and 2000ftlbs of torque we recently updated the software. The diesel department has 8 to 12 engines on hand for students to rebuild the cost to rebuild engines is high sometimes we can sell these engines and get others. The diesel department also brings in “live work”. Live works is the public having students rebuild light duty diesels, farm tractors and some heavy duty engines. This works out really well because the department doesn’t have to buy parts and the owner gets an engine rebuilt and the students experience real world pressure. Students also learn how to machine the components of the engine USUE is one of only a few that actually teach engine machining. Engine Machining class is taken in the afternoon 2 days a week student learn how to bore cylinders, resize rods, rebuild valve seats and guides, and grind the surface of the block and heads.

- **Spring Odd Year: Advanced Diesel Engines. 10 credits**
  Students learn the theory and how to test and adjust all the sub-systems of the diesel engine including oil pressure, cooling intake, exhaust and most importantly the fuel system which is electronically managed. Getting the very latest diesel engines and equipment to test is a challenge to say the least. To do this we have fair support from the industry in supplying us with the software to communicate electronically with the engine or truck. The department spends around $3000 a year to keep up with the latest technology out there to test and diagnose diesel equipment not only the engines but all the systems on mobile equipment are becoming computer controlled. USUE has a Trucking and Heavy Equipment program that we partner with to test live equipment in a real world setting. The diesel industry technology is advancing in leaps and bounds and is being driven by the need to clean up the air that we breathe as well as fuel mileage. The need to stay abreast of the current technology is a must not only as a technician but as an instructor as well.

- **Fall Odd Year: Mobile Electrical and Electronic 8 credits**
  Students will study the basic principles of electricity including electron flow in series and parallel circuits, Ohm’s law, magnetism and semiconductor devices related to the mobile industry. The theory and operation of a complete vehicle electrical system and its various components will be discussed in a series of sub-systems. These sub-systems include: the battery, starter and starting system, alternator and charging system, gauges and instrument panel, vehicle lighting and
accessories, engine electronic sensors, as well as the wiring and connections used in each of these systems. Students have the opportunity to learn schematic symbols by studying the various types of electrical circuits used in mobile equipment. Students will be introduced to different test instruments such as the digital multi-meter and testing techniques unique to each type of equipment will be presented. Hands-on experience and theory is given to the student. Each individual type of testing equipment is demonstrated as well as techniques given for troubleshooting, servicing and testing electrical systems: Students demonstrate their proficiency using this equipment to test batteries, starters and the starting system, the alternator and charging system, gauges, lights and accessories, engine sensors, as well as the wiring harness and connections used in each of these systems. Particular emphasis is placed on component identification, isolating component failures, and electrical safety procedures for both personal safety as well as preventing electrical system damage. Once again live work is brought into the shop. Students can fix lights test starting and charging systems and fix any problems in the electrical, electronic system

- **Fall Odd Year; Fluid Power 7 credits** Classroom instruction is given in the basic fundamental principles of fluid power. Students will discuss and mathematically calculate the relationships between hydraulic pressure, force, area, and resistance as well as rpm, torque, hydraulic horsepower, energy and heat loss. Covers the theory and operation of hydraulic fluid, reservoir design, filters, pumps, actuators, pressure controls, directional controls, and flow controls. Students will have the opportunity to learn schematic symbols through representations of various types of circuit design representing both closed loop and open center systems in industrial as well as mobile applications. Topics discussed will be pressure compensated systems, hydrostatic drive circuits and system troubleshooting. As the course progresses, students will be introduced to methods of troubleshooting hydraulic systems using a flow meter and pressure gauges. Students will also identify and review hydraulic fittings, hose types, and safety. Hands-on experience identifying, testing, troubleshooting, and rebuilding various brands of hydraulic components. Students will have the opportunity to use a flow meter and pressure gauges to troubleshoot hydraulic components as well as test different components on a hydraulic test bench. Particular emphasis is placed on component identification, failure analysis and hydraulic fitting identification. Once again live work is brought into the shop usually a backhoe works best. Students can test pressures and rebuild cylinders in a real world setting.

- **Spring Even Year Mobile Air conditioning 3 credits** Covers the principles of heat transfer using refrigerant as the medium. Particular attention is given to the identification and operation of individual system components as well as the variations in system design from OEM to OEM. Different types of refrigerants used in the mobile industry as well as recovery, recycling, storage, handling, and disposal
will be discussed. Students are taught methods for R12 to R134A conversion. After EPA laws and guidelines have been taught, students are given the hands-on opportunity to locate, identify, test, service, and troubleshoot different types of mobile AC systems using EPA approved equipment and procedures. They will demonstrate their proficiency using recovery, recycling, evacuation, and charging equipment for both R-12 and R-134A refrigerants. System conversion from R-12 to R134A is also demonstrated. The student will have the opportunity to test for a MACS recovery and recycling certificate.

- **Spring Even Year Heavy Duty Chassis and Power Trains 10 credits**
Covers highway truck air systems, foundation brake repair and maintenance, front end, tandem, and trailer axle alignment, heavy duty suspension systems, annual and automatic transmissions, clutches, differentials, and drive lines. Students will calculate drive line angles, gear ratios, and tire size, as well as troubleshoot and analyze tire wear, failures of gears, universal joints, clutches, axles, brakes.
Assessment Plan

For the Undergraduate Program in Welding
Departmental Profile

Mission

USU-Eastern Welding Department is committed to providing an excellent technical program that supports three learning pathways: (1) a one-year certificate of completion for those students who want to develop sufficient skills and enter the workforce quickly, (2) a two-year Associate of Applied Science degree for students desiring a broader background and higher level skills, and (3) an Associate of Science degree for those students planning to transfer to a four-year institution and graduate from a welding related program. We encourage the development of citizenship and professionalism in our students and we serve as a technical resource for our community.

Numeric Profile

Current Capacity: Capacity varies from 9 to 15 students for our shop classes based on which welding process/course is being taught. Theory classes (classroom classes) are limited to about 24 based on the number of seats in the classroom.  
Recent Avg. Class Size: About 10 students  
Full Time Instructors: Two  
Part Time Instructors: Zero  
Avg. Instructor Load: 15.6 credit hours (24.3 contact hours) per semester  
Full Time Course Load: Under review, but, 12 cr. hr. / 19 contact hr. expected  
Avg. Number of Program Students per Semester: 25  
Avg. Number of Other Students per Semester: 23  
Avg. Number of AAS or CC Completers per Year: About 6 (recently higher)  
Student Description: 95% Male, 80% Traditional Age

Priorities

Priorities should be derived from our mission and, arguably, we are quite successful at fulfilling our mission. However, an overall priority for this campus is increasing efficiency and we share in that endeavor. A 2013 analysis indicated that our student to faculty average is 9.8, while the goal is above 12 for our program. In April 2013 we created a proposal that should give us a reasonable opportunity to meet that goal while operating within the same footprint of our existing facility. That proposal was approved by our program advisory committee (PAC) and administration; thus, clear direction exists, the work has begun, and our first priority is completing that work.

The short-term priority is to continue our mission, but for more students. This program review prompted an evaluation of our recent activities and it is apparent that recent
efforts to expand industry training were not well supported by our mission. Although those efforts are currently on hold, a secondary priority is to revisit our mission and ask: Is this mission still appropriate? Should there be more emphasis on industry training? Until those questions are thoroughly discussed and answered, efforts towards increased industry training should be suspended.

One-Year Action Plan

The one-year plan is primarily focused on the increased efficiency priority mentioned above and is expressed by two drawings attached at the end of this review (Appendix 7B). The first drawing shows the current configuration of the USU Eastern weld shop. The second drawing shows how the shop will be reconfigured create more welding booths and opportunity for increased enrollment.

This plan adds the opportunity for two or more additional students in each of our shop classes; which we expect to be sufficient to exceed the 12 student average goal. Administration has supported this plan and adequate funding exists. Most of the reconfiguration work will be complete by the start of Fall 2014 semester and our enrollment limits were already raised accordingly.

We also plan to update the classroom technology. This will include minor changes in the classroom layout and the removal of cords/cables that currently block or distract the students’ view. A second CAD workstation will be installed and we will investigate smart-board and other presentation technology and implement appropriate changes as warranted.

Elements of a five-year plan are discussed below. However, our mission must be reviewed, discussed and either revised or reapproved prior to significant progress on a longer term plan. Thus, we intend to reconsider our mission over the next several months.

Five-Year Action Plan

The need to reexamine our mission precludes much specificity in our five-year plan. Nonetheless, some core standards and considerations are outlined below to guide in the future construction of a more specific five-year plan.

Core Standards:

- Maintain quality program and program reputation
- Exceed the 12:1 student/faculty ratio average
- Fulfill our mission and do so for more students
- Maintain relatively high completion rates
Forward Looking Considerations:

- Update program curriculum and balance credit hour offerings between beginning and advanced classes:
  - Review and update course objectives as appropriate for the credit hours assigned and the technology available.
  - Align specific equipment/process training with objectives of specific courses where needed (punch press, hydraulic shear, press brake, drill press, leaf break, CNC cutting, hardness testing, saws, plasma cutting, etc.).
  - Evaluate opportunity to reduce or eliminate 1 hour labs because 1.5 to 2 hour labs appear more productive.

- Equipment to be investigated and prioritized based on updated curriculum:
  - Automated GTAW
  - Casting and hand forming
  - Tensile testing
  - Welding simulation and measurement system such as RealWeld

- Action steps:
  - Review program mission in light of the relatively new campus mission and either revise it or re-subscribe to it.
    - Does it support the campus mission?
    - How involved should we be with workforce education and industry training? Is it worth hiring an additional instructor? Would it support an additional instructor?
    - How big should we be? If we should be bigger, where should we grow? (Continued focus on Price? Or Emery? Moab? Blanding?)
  - Review assessment goals in light of any changes to mission, changes to curriculum, and changes to instruction.
    - Update pretest/posttest assessment instrument
    - Evaluate the Workforce Ready / Skill Connect assessment
    - Consider continued participation in SkillsUSA, is it worth the effort?
  - Discuss and appraise our role in workforce education and industry training.
    - Evaluate the impact of the proposed Faculty Annual Work Plan Guidelines with regard to our degree program and industry training

Ways Administration Can Help:

- Resolve “Work Plan Guidelines” in an equitable manner for lab intensive programs. Also provide consideration of industry training/consulting guidelines and compensation.
- Fund growth. We are committed to meeting the 12 student average goal. Each new student and each additional course further strains resources. If the only way to fund growth is through increased lab fees, then we need to know that so that we can analyze the situation from that perspective.
The concurrent enrollment schedule, where we comply with the Carbon School District bell schedule, is cumbersome and expensive. If CSD provides 12 students per course then it may be worth it; however, it has been a few years since CSD enrollments have been that high. There may be mitigating factors in the coming year, such as the elimination of the Building Construction program and changes to the Utah Core Standards. Resolution could come in a variety of other ways:

- Reduced concurrent course offerings
- Follow the USU Eastern semester schedule
- Open sections to both regular college students and concurrent enrollment students
- Relief in combination with overhaul of welding program, etc..

Examples of Goals, Measurements and Outcomes

Assessment
See Appendix 7A for a detailed summary of our assessments.

Strengths
- Solid program with good reputation and national recognition.
- Well-equipped shop.
- Quality instruction from experienced, highly qualified instructors.
- Traditional college program enhanced by a few non-traditional students.
- We offer our students the full college experience rather than a trade school experience. We provide genuine college credit that can be transferred and used toward A.S. and B.S. degrees. This is a key distinction.
- Many of our graduates go on to complete a 4-year degree.
- Our graduates are successful.
- Welding programs are capital intensive to start and expensive to operate. This translates to a competitive advantage for our program and value for our students.

Weakness
- Small shop that is locked between two other shops (no space to grow).
- Flat to declining regional population.
- Lost a long term faculty member who was identified with the program.
- Although we briefly (two weeks) had three faculty members, we are again back to two faculty members and not in position to expand course offerings or effectively provide industry training.

Recommendations
Complete the work indicated by the one-year plan prior to Fall 2014 so that every class can start with a minimum of 12 students.

Revisit the welding program mission with consideration for:
- Supporting campus mission
- Our role in industry training and certification
- Appropriate assessment

Continue the completion (graduation) incentive discussed later in this review.

Program Support

Facilities & Equipment

Equipment
There is a constant need to keep equipment up-to-date and in good condition and there has been good support from administration to fund these needs. There has also been a high level of support from faculty to keep equipment in good repair, install new equipment and train students to use the new equipment. Equipment and modern technology is a strength of the welding program, not a weakness.

Facilities
The building was built in the mid-70s and has associated issues. However, recently there has been more emphasis on maintenance and particularly preventative maintenance. Assuming good maintenance, the building itself is not an issue in providing quality welding education. However, the ongoing issue is we have less space than we could effectively utilize. Our shop is about 5,000 square feet. We are cramped at our current enrollment levels and a stated goal is to increase our enrollment levels. Twice as much space (10,000 square feet) would allow room to work, room for special activities and room for growth. The weld shop is locked between the automotive shop and the diesel shop; consequently, expansion is not an easy endeavor.

Professional Development

There are many forms of professional development and opportunity for professional development seems plentiful. Finding the time for some forms of professional development appears more of an issue.

Welding faculty have engaged in the following forms of professional development over the past few years:
- Attaining a doctorate of education degree.
- Completing welding certifications.
- Retesting and renewing Certified Welding Inspector and Certified Welding Educator credentials.
- Working in industry and consulting for industry either individually or through a USU approved consulting contract.
- Engagement with SkillsUSA and the American Welding Society.
- Attending USU sponsored seminars and workshops.

Some may not realize that often the best professional development for vocational educators is working within their field of expertise for actual industry. An automotive instructor could work as a mechanic, a welding instructor could work as a welder, or either could consult or perform training for industry. Any of these avenues helps keep the instructor up to date with industry trends and technology.

**Students**

**Admission Standards**

The following additional requirements are in place:
1. External transfer students need a 2.5 minimum GPA.
2. Internal transfer students need a 2.5 minimum GPA.
3. Welding courses with below a C- grade do not count towards graduation.
4. Visual acuity must be 20/40 and Jaeger J-2 or better at 12-inches. Corrective lenses may be used to achieve this visual acuity, but, corrective lenses must be worn during class periods if they are necessary to achieve this standard.

**Number of Majors in Program**

There are typically about 20-29 students actively pursuing a welding Certificate of Completion or Associates of Applied Science degree. The “official number” was not provided and may be higher. However, we know what we see and this semester there are 21 students in a class that should include nearly all the active welding students.

**Enrollment and Attrition Trends**

The data provided for the last three years enrollment was undecipherable. There is probably a small reduction in recent enrollment numbers and most of that reduction is likely due to the concurrent enrollment high school numbers, which have declined since the Utah secondary core standards were revised to reduce the number of elective credits available to high school students.

Overall, the welding program has had relatively steady enrollment for over the last decade. The goal is to modestly increase the enrollment; however, the structural changes to the high school credit standards may require a reduction or elimination of concurrent enrollment classes if enrollment and average class sizes are to increase. Reportedly the Utah high school credit requirements are again under review. We need to appraise any changes, particularly a reduction of elective credits, because it can negatively affect our enrollment. See Table 1, below, for enrollment information.
Table 7: Welding Enrollments at Carbon and Emery counties, listed as secondary and postsecondary.

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Graduation and Retention Rates

The table below lists the welding program graduates for the last three years.

Table 8: Completers and their place of employment.

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<td>Joseph Fournier</td>
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<td>-3</td>
<td>Riley Harrison</td>
<td>CC</td>
<td>?</td>
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<tr>
<td>-4</td>
<td>Daniel Larsen</td>
<td>AAS</td>
<td>Works for Skyline Mine</td>
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<td>2012-1-1</td>
<td>Michael Grange</td>
<td>CC</td>
<td>Police department, Emery County</td>
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<td>Michael Montoya</td>
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<td>Fire department and Central Commission</td>
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<td>Jordi Pincock</td>
<td>AAS</td>
<td>TIG Welding for Ogden Fab. Shop</td>
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<td>Trevor Rowley</td>
<td>CC</td>
<td>Finished AAS, courses for BS &amp; Working</td>
</tr>
<tr>
<td>5</td>
<td>Dexter Thayn</td>
<td>AAS</td>
<td>Working on Weld Engr. B.S. @ Weber</td>
</tr>
<tr>
<td>2013-1-1</td>
<td>Taylor Behling</td>
<td>AAS</td>
<td>Welding for Guymon Fabrication</td>
</tr>
<tr>
<td>2</td>
<td>TJ Bettino</td>
<td>AAS</td>
<td>Utah National Guard Currently Deployed</td>
</tr>
<tr>
<td>3</td>
<td>Kevin Erickson</td>
<td>CC</td>
<td>Finishing AAS @ USU-E</td>
</tr>
<tr>
<td>4</td>
<td>Brady Gibbs</td>
<td>CC</td>
<td>Working for Barnes Aerospace</td>
</tr>
<tr>
<td>5</td>
<td>Remington Grace</td>
<td>AAS</td>
<td>Welding for Intermountain Electronics</td>
</tr>
<tr>
<td>6</td>
<td>Rick Johnson</td>
<td>CC</td>
<td>Finishing AAS @ USU-E</td>
</tr>
<tr>
<td>7</td>
<td>Kelleen Jorgenson</td>
<td>CC</td>
<td>Finished AAS in December (see below)</td>
</tr>
<tr>
<td>8</td>
<td>Kelleen Jorgenson</td>
<td>AAS</td>
<td>Just started at Pipefitters Union</td>
</tr>
<tr>
<td>9</td>
<td>Reed Kitchen</td>
<td>CC</td>
<td>?</td>
</tr>
<tr>
<td>10</td>
<td>Chad Malnar</td>
<td>AAS</td>
<td>Working on BS will transfer to Weber</td>
</tr>
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The graduation rate was not provided and there are a number of ways to consider “graduation rate”. If the typical “twenty-something” majors were fixed at 25, then the 2011 rate could be estimated as 16%, the 2012 rate could be estimated as 20%, and the 2013 rate could be estimated as 56%. This method does not adjust for people who completed both the Certificate of Completion (CC) and Associates of Applied Science (AAS). It also does not distinguish CC completion from AAS completion.

What should the graduation rate be? The average graduation rate from above is about 31% and it would seem that the ideal rate is the highest number possible without jeopardizing the quality of the program. That number is probably somewhere between 25 and 50%, although there will be years when it is higher or lower. The discussion below in the Student Placement section and the concept of “freedom to fail” is also relevant to graduation rate.

The trend is positive and the trend, at least in part, is by design. In 2012 we started emphasizing completion. Recognizing that the goal of many vocational students is to obtain sufficient trade skill to get a job (rather than complete a college credential) we started emphasizing the benefits of also having the college credential. We also noticed that AAS students would typically skip the CC credential even though they had earned it --- often giving the reason of “why should I pay the certificate of completion fee when I am planning to get the AAS?” To encourage both groups (expected non-completers and AAS only) to complete, we started offering a set of welding gages to all completers. The gages are worth about $20, which is more than the graduation application fee; thus, the students feel they are getting more than a piece of paper for their graduation fee. Those from academic backgrounds may not understand this reasoning, but it makes good sense in the vocational realm and has contributed in raising our completion rate.

Student Placement Rates and Salary Data

Some believe that a primary responsibility of vocational programs is job placement. Such thinking can be counter-productive and even harmful. Emphasizing job placement detracts from more important matters such as learning, human development, and societal interaction. Over emphasizing job placement and salary place capitalism ahead of democracy and such placement is inappropriate for a public institution. Completers are not owed a job or high wages, but, they are owed a choice --- the freedom to choose to work in the welding industry. That choice is only available if they have earned the expected skills and knowledge. Some of our finest graduates have become public servants: teachers, firefighters, policemen, and military.

Job placement is the student’s responsibility. If the student does not regularly attend or if they do not perform, they will fail in this program. That is a lesson that we owe our students. It also coincides with what employers want and behaviors that are consistent
with productive people. We expect students to make good choices and we try to nudge
them in the right direction. We are in the business of expanding choices (freedoms) and
expanding horizons; but, sometimes the most valuable and instructive freedom is the
freedom to fail.

Rather than suggesting that job placement and high wages are a program responsibility, a
more appropriate responsibility is to teach skills that are valued in the workplace. A
more appropriate responsibility is to maintain standards at or above industry standards. A
more appropriate responsibility is to manage the curriculum and instruction in such a way
that any student who completes a CC or AAS credential can demonstrate sufficient skills
and knowledge to get a job and maintain or improve upon the good reputation of this
program.

Despite, or possibly due to, the philosophical wrangling discussed above, welding
program completers are very successful in terms of job placement and salary. Basically
if a student is successful in this program, they have the skills to be successful in industry
or in continuing their education or in whatever they choose. The table above illustrates
the success of our recent graduates and is representative of the success of our graduates
for over a decade. In general, completers that choose to work in the welding field do not
accept less than $16/hour and we know of multiple former completers who consistently
earn over $100K per year. We also know of many non-completers that gained sufficient
expertise to get a job and are now doing well working in the welding fabrication industry.

Transfer Data

Seven of the 14 AAS-degree graduates listed in the previous table continued their
education after finishing our degree (50% rate). Of those seven, six are believed to still
be actively pursuing a B.S. degree. Most of our transfer students enter Weber State
University’s Welding Engineering Technology BS Program and a large majority of them
finish that program. Our “transfer students” often finish their AS degree here (in addition
to their AAS in welding) before moving to Weber. Thus, the welding program is
indirectly generating additional FTE on this campus.
Welding Program Assessment:

Introduction: In the early 2000s regional college accreditation agencies, including our accreditor – Northwest Commission on Colleges and Universities, were focused on assessment: How can we demonstrate that students are learning, that we are successful at teaching, and that we are teaching skills and knowledge that is valued in industry. Many colleges and universities were identified as lacking in assessment and there was a lot of confusion about what was expected. What constitutes good assessment?

Three assessments were created in response to the assessment concern and all three remain today. Two of the three program assessments are performed by independent assessment agencies and are based on industry standards. We cannot influence the test instruments or the performance criteria for those assessments. The only influence the welding program instructors have is preparing students well.

Welding program assessments are now quite mature with 4 to 13 iterations of each. The methods and standards have remained unchanged. Although we have failed to meet the standard by a small margin in few rare instances, we are confident that the assessments demonstrate the high standards of the welding program and the good teaching and learning performance of the instructors and students. The assessment summary is included below.

Mission: USU-Eastern Utah Welding Department is committed to providing an excellent technical program that supports three learning pathways: (1) a one-year certificate of completion for those students who want to develop sufficient skills and enter the workforce quickly, (2) a two-year Associate of Applied Science degree for students desiring a broader background and higher level skills, and (3) an Associate of Science degree for those students planning to transfer to a four-year institution and graduate from a welding related program. We encourage the development of citizenship and professionalism in our students and we serve as a technical resource for our community.

Assessment 1: Industry Testing

Mission Excerpt: USU-Eastern Welding Department is committed to providing an excellent technical program… (Also highlights our commitment to both 1 yr and 2 yr program pathways.)

Outcome: Implicit to the “excellent technical program” statement is the expectation that students completing the program will demonstrate technical competence. Our welding students will perform well when tested by an independent industry organization and compared to the national pool.
Industry Testing Assessment

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<th>Method &amp; Standard</th>
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<td>Every three years, we ask our one-year and two-year students (that appear to be eligible for a 1-yr certificate or a AAS degree) to take the National Occupational Competency Testing Institute (NOCTI) welding test. We expect our students to score above the national average in 80% or more of the test areas (14 technical areas), and we expect 80% or more of our students’ composite scores to exceed the national average.</td>
<td><strong>In 2002</strong> CEU welding students exceeded the national average in 14 of 14 technical areas, and, 90% of the students exceeded the composite national average. <strong>In 2005</strong>, CEU welding students again exceeded the national average in 14 of 14 technical areas, and, 89% of the students exceeded the national composite average. First year students averaged 69.6% and second year students averaged 79% compared to the national average of 60.3%. <strong>By 2008</strong>, NOCTI had modified the test by reducing the 14 technical areas to 9. In 2008, CEU welding students exceeded the national average in 9 of 9 technical areas. 81% of the students exceeded the national composite average. However, two of the three students that did not exceed the national average had documented learning disabilities that required extended testing time and distraction-free testing --- which could not be accommodated with the NOCTI test format. If those two cases were removed from the data, then 93% of the students exceeded the national average. For full data see file: NOCTI Results 2008.xlsx</td>
<td>None is necessary. However, we are aware that Safety, Oxy-Fuel Welding &amp; Brazing, and Power Source Principles were our weakest areas (where our students exceeded the national average by only 2.6, 4.9 and 6.1 points respectively). The power source curriculum was overhauled Fall 2005. Although our safety lecture is routinely revised, we are considering more comprehensive changes. Oxy-fuel welding is becoming obsolete and we do not intend to emphasize. <strong>2008 Action Analysis:</strong> Our worst performing area, exceeding the national average by only 1.6%, was Welding Symbols and Print reading. This appears to be a simple matter of timing because this class is only taught every other year and first year students had not taken the course. Second year students (who had taken the course) averaged 97.6%, excluding the discrepant case. No specific action is warranted --- we will continue to make incremental improvements. <strong>Fall 2012 Update:</strong> We fell behind on this assessment and it is scheduled for late Spring 2013. <strong>Fall 2013 Update:</strong> The NOCTI test was completed April 2013 and USU-Eastern students exceeded the national average in 9 of 9 technical areas (80% goal, 100% achieved). Also, all students exceeded the national composite average (80% goal, 100% achieved). For the full report see file: NOCTI Results 2013.xlsx</td>
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**Assessment 2: SkillsUSA Competition**

**Mission Excerpt:** USU-Eastern Welding Department is committed to providing an excellent technical program... & ... We encourage the development of citizenship and professionalism in our students.

**Outcome:** SkillsUSA is a fine national organization that promotes technical excellence, professionalism, and citizenship. In addition, the SkillsUSA contests allow us to gauge our program against the best in the state and in the nation. We will encourage student participation and compete at the state contest yearly.

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| We expect to place 1st or 2nd in the Utah welding competition each year and in the top 10 in the nation whenever we compete at the national level. | CEU welding has placed 1st in the Utah competition 7 of the last 8 years and placed in the top 7 at the national competition in each of the 7 years we competed. **Fall 2006 update:** Our 2006 competitor placed first in the State of Utah and finished 2nd in the nation. **Fall 2007 Update:** Our 2007 competitor placed first in the state of Utah and finished 2nd in the nation. **Fall 2008 Update:** Our 2008 competitor placed first in the state of Utah and finished 1st in the nation. He also won the U.S. Open Welding Trials. In addition, a new Team Welding Fabrication contest was added in 2008 and CEU represented Utah at the national contest where we took 1st place. **Fall 2009 Update:** We won the state competition (at the college level) in both welding and welding fabrication (exceeds goal). We placed 3rd in the nation in welding fabrication (exceeds goal); however, we placed 13th in the nation in welding (does not satisfy goal). **Fall 2010 Update:** We won the Utah welding and team welding fabrication at both the high school and college levels. Subsequently, we earned national silver in both contests at the college level; gold in high school team welding fabrication; and fourth place in high school welding. | Currently none necessary. However, a fuller participation in the ideals of SkillsUSA (rather than just the competitions) should be encouraged. **Fall 2006:** We are extremely pleased with the 2006 results and can only repeat the above comments. **Fall 2007:** Same as above **Fall 2008:** We are the national champions in both welding and team welding fabrication. Plus winner of the USA Welding Trials. This feat has never been accomplished before by any single school and likely never will again. The addition of the team contest helps encourage broader participation mentioned at the top of this column. **Fall 2009:** The 13th place finish was disappointing. After considering the results it just appears to be a case where the contestant did not perform to his ability. We are pleased with the bronze medal in team welding fabrication. **Fall 2010:** Another fabulous year for SkillsUSA welding contests. The results support the above analysis that the 2009 individual welder finish was a fluke rather than a trend. We are questioning
| Fall 2011 Update: We won the state competition at the college level in both welding and welding fabrication (exceeds goal). We won the national championship (Gold medal) in welding fabrication and placed 5th in the nation in welding (exceeds goal). | continued participation in this activity due to strained resources. |
| Fall 2012 Update: We won the Utah welding and team welding fabrication contests at the college level (exceeds goal). We (again) won the national championship in welding fabrication and (again) placed 5th in the nation in welding (exceeds goal). | Fall 2011: Keep it up. Welding competitor qualified for the USA welding trials. |
| Fall 2013 Update: We won the Utah welding contest and placed 2nd in team welding fabrication. We placed 5th at the national welding competition. All results satisfy the stated goal. | Fall 2012: Another successful year and another student qualified to compete in the USA Welding Trials (he declined). We are again debating the continuance of this goal and participation in SkillsUSA competitions due to time and expenses involved. |
| Fall 2013: Our fabrication team did not prepare to the normal extent and struggled with the new competition format. We will be working on team formulation and motivation. | Fall 2013: Our fabrication team did not prepare to the normal extent and struggled with the new competition format. We will be working on team formulation and motivation. |
Assessment 3: Pretest/Posttest

Mission Excerpt: … providing an excellent technical program that supports three learning pathways

Outcome: We expect the students to learn what we are trying to teach. Conversely: we expect to be effective teachers. Although the previous assessments demonstrate that our students are leaning/performing based on external criteria, we want to know that they are learning (and we are conveying) elements that we feel are important. Every three years we require our students to complete a pretest at the beginning of the Fall Semester and a posttest towards the end of the following spring semester.

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<td>We have developed a test that represents the body of knowledge that we are trying to convey. We expect the group of students that appear eligible for a 1-year certificate to complete the posttest with a 70% or higher average and we expect the 2-year student group to complete the posttest with an 80% or higher average. We also expect the 1st year student average to increase by 25 percentage points or more (over that group’s pretest score) and the 2nd year students to improve by 15 percentage points or more.</td>
<td>The Fall 2002/Spring 2003 cycle was completed with an average pretest score of 54 percent. The 1st year student posttest average was 71.6 and the 2nd year student average was 83.9. First year students improved by 32.9 percentage points and 2nd year students improved by 17.2 percentage points.</td>
<td>The criteria were satisfied. However, we need to do a better job of compiling the data on this round of testing. Specifically pre-identifying 1st and 2nd year students and also eligibility. This assessment uses data from students that completed both the pretest and the posttest (students completing only one portion were excluded from the assessment). It is not our intent to include students that are not satisfactorily progressing (likely dropouts and non-completers).</td>
</tr>
</tbody>
</table>

**Fall 2006 update:** For the Fall 2005/Spring 2006 pretest/posttest, the average pretest score (including all students … even those that dropped) was 45 percent. The first year student posttest average was 66% and the 2nd year student average was 81%. First year students improved by 23.7% and second year students improved by 13 percent. Our gains were more modest than the prior period, but the data was more closely controlled.

**Summer 2009 update:** For the fall 2008/Spring 2009 pretest/posttest, the 1 year certificate eligible students averaged 71.9 percent on the post-test and the 2 year AAS degree students averaged 83.9 percent. 1-year students improved by 21.9 percent and 2-year students improved by 25.2 percent. We exceeded the stated assessment goals. For the 2008/2009 data, see file: Pre Post Test Assess 2009.xlsx

**Fall 2012 Update:** The pretest was given this fall and the posttest is scheduled for spring.
Fall 2013 Update: The 1-year certificate eligible students averaged 67.9 (2.1% below goal); however, their pretest/posttest improvement was 29.2% (4.2% above goal). This would indicate a less knowledgeable group at the beginning of the year that excelled during the year but did not quite erase the deficit. The second year students exceeded both goals with 84.3% overall average and 15.2% year-over-year improvement.

Fall 2012 Update: Waiting to give the posttest next spring.

Fall 2013 Update: The 2.1% below goal average for the 1st year students was somewhat overshadowed by the 4.2% above goal knowledge increase. These students showed good but not unprecedented improvement. Our instrument (test) is the same as we used in 2002 and it is possible that the test is becoming dated. In other words, perhaps our teaching has kept up but the test has not. This will be a consideration for the next assessment.
Appendix 7B

One-Year Plan Illustrations