I. Program Description

The Agricultural Systems Technology degree combines an understanding of agricultural, biological and physical sciences with technical and business managerial skills. Graduates of the agricultural systems technology may be involved in one of numerous agricultural careers, like working for agricultural equipment corporations, managing a machinery dealership, serving as a sales representative for an equipment company or serving as a farm/ranch manager. However, skills taught in agricultural systems courses are applicable to other industries, making career opportunities almost limitless. Our students focus on the hands-on application of agricultural engineering principles, the function and use of agricultural technology and the integration of technology management concepts for the food, fiber and natural resources industries. The focal point of the program is on the management, use and troubleshooting of agricultural technology. Agricultural systems technology graduates are able to identify system problems, formulate possible solutions, and analyze the impact of alternative solutions on social and economic institutions. Students’ coursework typically involves a broad foundation through real-world instruction in power and machine systems, natural resources conservation, electricity and electronics, precision agriculture technologies and agricultural structural systems. Students are encouraged to incorporate business and management electives to develop a focus area of their choosing. USU’s program is recognized by the American Society of Agricultural and Biological Engineers (ASABE) as meeting the standards for an "Agricultural Technology and Management" program.

II. Degrees and Emphasis Options Offered

Students majoring in agricultural systems technology must choose one of two emphases which are Agribusiness or Agricultural Mechanization.

An Agribusiness emphasis provides in-depth, technical education in agricultural economics and business management. It is designed to provide basic knowledge of business concepts and approaches, as well as an understanding of current agricultural changes. This emphasis is for students who wish to become managers in agriculture and related industries. Students take courses in agricultural economics, agricultural business, and agricultural mechanics.

An Agricultural Mechanization emphasis provides a broad understanding of the production processes in agriculture, with a depth of understanding related to using machinery. Students take courses in agricultural mechanics, animal science, natural resources, plant science and soil science. Preparation in either emphasis includes technical agriculture, economics and business.

Students may also choose to complete a composite degree in agricultural systems technology and agribusiness. The composite program prepares graduates for managerial careers within the agriculture industry, including running a family farm or ranch. Graduates may also pursue other agricultural careers, such as working for an agricultural equipment corporation, managing a machinery dealership, serving as a sales representative for an equipment company or serving as a farm or ranch manager.

A dual degree option (meaning students graduate with two separate degrees) is also available in collaboration with the Applied Economics Department. The difference is that students in the composite program are not required to take as many higher-level economics classes.

III. Program Mission

The curriculum offered in Agricultural Systems Technology (AST) prepares students for careers in: agricultural production and management; agribusiness; agricultural machinery sales and service; and agricultural extension and agency service positions. Resident instruction develops students through acquisition of theoretical and vocational skills. These skills must support and stimulate critical thinking and reasoning through practical
application of relevant theory necessary for intellectual achievement and practical applications in agricultural occupations.

**IV. Alignment of Program Mission with Departmental Mission**

The mission of the Agricultural Systems Technology program aligns with the School of Applied Sciences, Technology and Education using the application of a multidisciplinary systems science approach for the resolution of agricultural and applied science matters through the advancement of education, research and outreach for agricultural technology transfer.

**V. Program Goals**

Goals for AST students upon completion of the program include:

1. Competence in the basic and applied sciences necessary for situational analysis in agricultural and related settings.
2. Acquisition of professional skills necessary to contribute to managing agricultural and related systems.
4. Develop skills needed for successful completion of graduate studies in agricultural systems technology, agribusiness, or other related disciplines.

**VI. Program Learning Objectives**

To meet program goals, graduates from the AST program should be able to:

1. Apply knowledge of math, science, technology and applied science to solve technical problems in agricultural and related industries.
   - Perform computational analysis of electrical circuits and hydraulic systems found in agricultural and related systems.
   - Apply spatial analysis for measuring size, shape and distribution of structures found in agricultural and related systems.
   - Perform psychomotor skills need repair, adjust, and maintain mechanical systems found in agriculture and related industries.
   - Fabricate an applied technology solution addressing an agricultural or related system problem.
2. Discuss viable solutions to situations within existing economic, environmental, social, political, health & safety and sustainability constraints.
   - Write a paper prospectus for designing an applied technology project addressing an agricultural or related system problem.
   - Perform an oral presentation of a solution strategy that address mechanical system problems found in agriculture and related industries.
3. Communicate effectively about agricultural and environmental issues.
   - Complete a presentation explaining environmental law impact on agricultural and related industries.
4. Implement and follow the business principles and ethical practices necessary to build and maintain a viable agribusiness.
   - Conduct situational analysis for business environments found in agriculture and related industries.
   - Prepare a marketing plan for an agribusiness product.
Assessment Plan
The Bachelor of Science (BS) Degree in Agricultural Systems Technology is designed to develop the needed background knowledge of basic agricultural concepts and technologies for managing agricultural operations and businesses. Coursework covers topics in the following fields: agricultural business & economics, agricultural mechanization, animal, dairy and veterinary sciences, plant and soil science and natural resources. All students complete a senior project and while not required, many complete an Occupational Internship. Most students completing the program requirements also earn a minor area of study and some complete requirements for double majors. Program assessment is completed through the following methods based on learning objective:

- **Individual Course Evaluations:** Individual agricultural systems core course evaluations provide an indirect measure of students’ progress on relevant IDEA objectives. Agricultural systems courses are listed as core for both emphasis areas which include the following courses:
  - ASTE 1010 - Introduction to Agricultural Systems Technology
  - ASTE 2200 - Electricity in Agricultural Systems
  - ASTE 2830 - Agribusiness Sales and Marketing
  - ASTE 3030 - Metal Welding Processes and Technology in Agriculture
  - ASTE 3050 - Technical and Professional Communication Principles (CI)
  - ASTE 3080 - Compact Power Units for Agricultural and Turfgrass Applications
  - ASTE 4100 - Agricultural Structures and Environment (QI)
  - ASTE 5260 - Environmental Impacts of Agricultural Systems (CI)

Faculty's selection of objectives and communication of those objectives to students is a critical component of the assessment of skill development. AST program learning objectives are listed below the following IDEA objectives based on alignment.

- IDEA Objective 1: Gaining factual knowledge (terminology, classifications, methods, trends)
  - AST Objective 1: Apply knowledge of math, science, technology and applied science to solve technical problems in agricultural and related industries.
- IDEA Objective 2: Learning fundamental principles, generalizations, or theories
  - AST Objective 1: Apply knowledge of math, science, technology and applied science to solve technical problems in agricultural and related industries.
- IDEA Objective 3: Learning to apply course materials (to improve rational thinking, problem solving and decisions)
  - AST Objective 1: Apply knowledge of math, science, technology and applied science to solve technical problems in agricultural and related industries.
  - AST Objective 2: Discuss viable solutions to situations within existing economic, environmental, social, political, health & safety and sustainability constraints.
- IDEA Objective 4: Developing specific skills, competencies and points of view needed by professionals in the field most closely related to this course
  - AST Objective 3: Communicate effectively about agricultural and environmental issues.
  - AST Objective 4: Implement and follow the business principles and ethical practices necessary to build and maintain a viable agribusiness.
- IDEA Objective 5: Acquiring skills in working with others as a member of a team.
  - AST Objective 1: Apply knowledge of math, science, technology and applied science to solve technical problems in agricultural and related industries.
  - AST Objective 4: Implement and follow the business principles and ethical practices necessary to build and maintain a viable agribusiness.
- IDEA Objective 6: Developing creative capacities (writing, inventing, designing, performing in art, music drama, etc.)
  - AST Objective 1: Apply knowledge of math, science, technology and applied science to solve technical problems in agricultural and related industries.
- AST Objective 2: Discuss viable solutions to situations within existing economic, environmental, social, political, health & safety and sustainability constraints.
- AST Objective 3: Communicate effectively about agricultural and environmental issues.

IDEA Objective 7: Gaining a broader understanding and appreciation of intellectual-cultural activity (music, science, literature, etc.)
- AST Objective 2: Discuss viable solutions to situations within existing economic, environmental, social, political, health & safety and sustainability constraints.
- AST Objective 3: Communicate effectively about agricultural and environmental issues.

IDEA Objective 8: Developing skills in expressing oneself orally or in writing
- AST Objective 3: Communicate effectively about agricultural and environmental issues.
- AST Objective 4: Implement and follow the business principles and ethical practices necessary to build and maintain a viable agribusiness.

IDEA Objective 9: Learning how to find and use resources for answering questions or solving problems.
- AST Objective 2: Discuss viable solutions to situations within existing economic, environmental, social, political, health & safety and sustainability constraints.

IDEA Objective 11: Learning to analyze and critically evaluate ideas, arguments, and points of view.
- AST Objective 2: Discuss viable solutions to situations within existing economic, environmental, social, political, health & safety and sustainability constraints.

IDEA Objective 12: Acquiring an interest in learning more by asking questions and seeking answers.
- AST Objective 2: Discuss viable solutions to situations within existing economic, environmental, social, political, health & safety and sustainability constraints.
- AST Objective 4: Implement and follow the business principles and ethical practices necessary to build and maintain a viable agribusiness.

Student Internship Reports: AST students are encouraged to participate in an internship during the course of study at USU. The AST program follows the assessment guidelines provided under the USU Cooperative Education Internship Agreement. These agreements are developed on a case by case manner to address each student’s desired learning objectives. The internship reports are reviewed to assess the following AST program learning objectives. The internship reports are reviewed to assess the following AST program learning objectives.
- AST Objective 2: Discuss viable solutions to situations within existing economic, environmental, social, political, health & safety and sustainability constraints.
- AST Objective 3: Communicate effectively about agricultural and environmental issues.
- AST Objective 4: Implement and follow the business principles and ethical practices necessary to build and maintain a viable agribusiness.

Presentations of Senior Design Projects (ASTE 4900): This capstone course provides senior undergraduate students the opportunity to develop and exercise creative and imaginative talents in the design of agricultural related projects. An agricultural systems approach will be emphasized with activities based on standard design principles. This course will resemble employment in a professional occupation. Assignments and projects are given and specific completion dates and times are scheduled in advance. The following AST program learning objectives are assessed through the senior design assessment rubric:
- AST Objective 1: Apply knowledge of math, science, technology and applied science to solve technical problems in agricultural and related industries.
- AST Objective 2: Discuss viable solutions to situations within existing economic, environmental, social, political, health & safety and sustainability constraints.
- AST Objective 3: Communicate effectively about agricultural and environmental issues.
- AST Objective 4: Implement and follow the business principles and ethical practices necessary to build and maintain a viable agribusiness.
Assessment Rubric for ASTE 4900: Each student's success in fabricating a high quality project, her or his willingness to correct mistakes and/or problems, and the time outside of regular class meetings dedicated in design improvement, craftsmanship, and profession attitude will determine a project's grade.

Grading Criteria Based on Average

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<tbody>
<tr>
<td>A</td>
<td>A-</td>
<td>B+</td>
<td>B</td>
<td>B-</td>
<td>C+</td>
<td>C</td>
<td>C-</td>
<td>D</td>
<td>F</td>
</tr>
<tr>
<td>3</td>
<td>2.7 to &lt; 3</td>
<td>2.5 to &lt; 2.7</td>
<td>2.25 to &lt; 2.5</td>
<td>2 to &lt; 2.25</td>
<td>1.75 to &lt; 2</td>
<td>1.5 to &lt; 1.75</td>
<td>1.25 to &lt; 1.5</td>
<td>&gt;1 to &lt; 1.25</td>
<td>≤1 to 1</td>
</tr>
</tbody>
</table>

- **Quality of Project Materials:** 3 If new, properly sized material is used, 2 if other than new material is used, but the material is modified so as to appear new, or 0 if any material is improperly sized and/or it appears old, worn, and/or of poor quality or poor workmanship.
- **Quality of Workmanship:** 3 If quality commercial manufacturing level, 2 if good quality and no safety and/or functionality concerns, or 0 if poor quality and/or one or more safety and/or construction concerns.
- **Weekly Assignments** (up to 8 assignments) 25% late penalty: 3 If all weekly assignments complete and on time, 2 if one incomplete, 1 if any late or 0 incomplete, or 0 if more submitted incomplete and/or late.
- **Project Assignments** (up to 6 assignments): 3 If all project assignments completed on time, 1 if any incomplete and/or late, or 0 if two or more not submitted complete and on time.
- **On-Site Fabrication:** 3 If at least 85% project fabricated/completed during class time and outside of class time at ASTE facility. 0 If more than 15% completed at location other than ASTE facility.
- **Application of Effort:** 3 If 90% of student's effort is dedicated to the design, fabrication, and improvements to quality of project. 0 If more than 10% of effort is dedicated to any components of project that can be readily purchased rather than fabricated (i.e. building wheels rather than buying wheels, building standard brackets rather than buying standard brackets).
- **Project Retrofitting:** 3 If project is altered, modified, rebuilt, and/or improved to correct all flaws or problems associated with safety, functionality, construction concerns, and/or ergonomics; 1 if several but not all corrected, or 0 if few or none corrected.
- **Attendance:** 3 If attended/arrived on time for 90% of scheduled meetings, 2 if attended/arrived on time for 80% to < 90% of scheduled meetings, 1 if attended/arrived on time for 70% to < 80% of scheduled meetings, or 0 if attended/arrived on time for < 70% of scheduled meetings.

**Individual Course Assignments:** The AST program is designed to help students learn hands-on application of agricultural engineering principles, the function and use of agricultural technology, and the integration of technology management concepts for the food, fiber, and natural resources industries. Students’ coursework typically involves a broad foundation through real-world instruction in power and machine systems, natural resources conservation, electricity and electronics, precision agriculture technologies, and agricultural structural systems. Foundational skills taught in agricultural systems courses are assessed through multiple core course assignments throughout the degree program. These core technical courses include the following assignments used for assessment of AST learning objectives:

- **ASTE 1010 - Introduction to Agricultural Systems Technology**
  - Exams
    - AST Learning Objective 1: Apply knowledge of math, science, technology and applied science to solve technical problems in agricultural and related industries.
• ASTE 2200 - Electricity in Agricultural Systems
  • Laboratory Skill Activities
  • AST Learning Objective 1: Apply knowledge of math, science, technology and applied science to solve technical problems in agricultural and related industries.
• ASTE 2830 - Agribusiness Sales and Marketing
  • Project-based learning activity “Ready, Set, Sell”
  • AST Objective 4: Implement and follow the business principles and ethical practices necessary to build and maintain a viable agribusiness.
• ASTE 3030 - Metal Welding Processes and Technology in Agriculture
  • Project-based learning activity “Welding Production Project”
  • Apply knowledge of math, science, technology and applied science to solve technical problems in agricultural and related industries.
• ASTE 3050 - Technical and Professional Communication Principles (CI)
  • Writing and Presentation Assignments
  • AST Objective 3: Communicate effectively about agricultural and environmental issues.
• ASTE 3080 - Compact Power Units for Agricultural and Turfgrass Applications
  • Project-based learning activity “Engine and Preventive Maintenance Project”
  • AST Objective 1: Apply knowledge of math, science, technology and applied science to solve technical problems in agricultural and related industries.
• ASTE 4100 - Agricultural Structures and Environment (QI)
  • Laboratory Assignments
  • AST Objective 1: Apply knowledge of math, science, technology and applied science to solve technical problems in agricultural and related industries.
  • AST Objective 2: Discuss viable solutions to situations within existing economic, environmental, social, political, health & safety and sustainability constraints.
• ASTE 5260 - Environmental Impacts of Agricultural Systems (CI)
  • Research Assignment Project Presentation “Environmental Laws”
  • AST Objective 2: Discuss viable solutions to situations within existing economic, environmental, social, political, health & safety and sustainability constraints.
  • AST Objective 3: Communicate effectively about agricultural and environmental issues.
ASTE 4100 Roofing Laboratory
Installing shingles and supporting materials

Materials:
- Roof Model
- Drip edge
- 4”x4” flashing
- Underlayment Felt paper
- Roofing nails
- Hammer
- Tape measure
- Chalk Line
- Box knife with hook blade

Safety Notes: Make sure to drive nails properly. See diagram below. Sharp edges on metal will cut. Handle metal, tools, and shingles carefully to prevent injury. Use only two nails per drip edge and shingle.

Directions:
1. Install metal drip edge along the eaves of the roof (48”) and dormer (26”). You will need to install the saddle over the drip edge in the valley. Use two roofing nails to fasten each piece of drip edge to roof.
2. Install underlayment over the drip edge. The underlayment should be fasten with nails with plastic caps. Be sure to install underlayment both roof sections.

3. Install the first piece of 4”x4” flashing against the wall section. This piece has a cup cut to deflect the water away from the wall section. Use two roofing nails to fasten the flashing to the roof.

4. Install your starter course shingles. Be sure to trim off the 5~5/8” exposure section. Use only two roofing nails to fasten shingles to the roof.

5. Install your next course making sure the side laps are no less than 4” in succeeding courses. Use only two roofing nails to fasten shingles to the roof.
6. Install the next section of 4”x4” flashing against the wall section. Overlap it with the first flashing by 2”. Use two nails to fasten flashing to roof.

7. Install the next course of shingles. Be sure to trim edge to offset side laps. Use only two nails to fasten.
8. Install the next course of shingles. Be sure to trim the edge to offset side laps. You will have cut a notch to fit the shingle under the dormer.

9. Install the next course of shingles. The top edge of the shingle course should be aligned with the dormer.

10. Repeat the installation of a starter course for the dormer.

11. Install the first course over the dormer with a 6” offset from the edge. Increase the offset to 13” for the second course.
12. Install a shingle strip up the valley.

13. Snap a chalk line 2” outside the center of the valley. Place the final course of shingles so that the edge aligns with the corner.
Grading Rubric:

<table>
<thead>
<tr>
<th>Category</th>
<th>10 points</th>
<th>8 points</th>
<th>5 points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Off sets are installed correctly</td>
<td>4” side laps</td>
<td>less the 4” but more than 3”</td>
<td>Less than 3”</td>
</tr>
<tr>
<td>Exposure set correctly</td>
<td>5~5/8”</td>
<td>Less than 5<del>5/8” but more than 4” or Greater than 5</del>5/8” but less than 6”</td>
<td>Greater than 6” or less than 4”</td>
</tr>
<tr>
<td>Drip edge and flashing installed properly</td>
<td>Overlap and installed in the proper location</td>
<td>Missing drip edge and flashing</td>
<td></td>
</tr>
<tr>
<td>Underlayment installed</td>
<td>Underlayment installed</td>
<td>Missing underlayment</td>
<td></td>
</tr>
<tr>
<td>Correct fastener</td>
<td>Fasteners used correctly and appropriate number</td>
<td>3 to 4 fasteners driven incorrectly</td>
<td>More than 4 fasteners driven incorrectly</td>
</tr>
<tr>
<td>Straight Course</td>
<td>Aligned and straight</td>
<td>one or two misalignments</td>
<td>More than two misalignments</td>
</tr>
<tr>
<td>Safety</td>
<td>Followed directions and used tools appropriately</td>
<td>One reminder to put safety glasses on</td>
<td>Two or more reminders to put safety glasses on</td>
</tr>
</tbody>
</table>
ASTE/JCOM 3050: Technical and Professional Communication Principles
Employment Project

Project Prompt and Summary
You have located a real and specific job or internship for which you are qualified when you submitted the Job Ad Analysis. You will prepare a cover letter and résumé suitable for this position or another of your choice. You will also write an assessment of your experience in a project assessment letter. In the process of completing the cover letter and résumé, you will complete a peer review to shape your writing so that it represents you and your experiences fully and effectively.

Assignments
Peer Review of Cover Letter & Résumé
Due: October 7 at 10:30 a.m. in class
Possible Points Earned: 20 points
Please bring a hard copy of your cover letter and résumé to class. You will trade your document with two peers. The instructor will provide a copy of the peer review sheet for you to complete. Once you have completed the peer review process, you leave class with your sheet and documents.

Employment Project
Due: October 14 at 10:30 a.m. in class
Possible Points Earned: 100 points
Submit printed copy of these items:
1. Job or internship ad
2. Cover letter
3. Résumé
4. Peer review sheet
5. Project assessment letter

Cover Letter (worth 40 points)
The cover letter is critical to your efforts in securing a job, perhaps even more critical than your résumé itself. It is in the cover letter that you begin structuring the response to your application. With the cover letter you provide a framework through which potential employers view your résumé and you as a potential employee.

Your cover letter must display these components
1. Create your letterhead & use it for your cover letter and résumé. Include your name, telephone number(s), and email address. Optional items are address, website address, or link to LinkedIn profile. (1 point)
2. Date (written as Month Day, Year) (1 point)
3. Recipient’s address (1 point)
4. Greeting (use individual's name or generic name and colon; "To Whom It May Concern" is not acceptable) (1 point)
5. Introductory paragraph (4 points)
   o Identify position you are applying for
   o If possible, name referral or contact
   o Indicate how you learned of the position
   o Create interest or solve a problem/need
   o Link education and work experience to position
6. Body paragraphs (5 points)
   o Provide examples of your qualifications as they relate to the position
   o Use results-oriented success statements - use facts, data or numbers
   o Can be paragraph or bullet point format
7. Concluding paragraph (4 points)
   o Thank the reader(s) for taking time to read the letter
   o Mention your résumé in either a body paragraph or concluding paragraph
   o Include a request for an interview, offer to share your portfolio, or give your contact information
   o Indicate follow-up on application
8. Closing (1 point)
9. Signature (signed & typed) (1 point)
10. Enclosure notation for résumé (1 point)
11. Use correct grammar, capitalization, spelling, punctuation, and word choice (10 points)
Résumé (worth 40 points)
It is critical that you shape your résumé to the specific job or internship for which you have chosen to apply, so be sure to include only the relevant aspects of your professional experience. Before you write your résumé, ask yourself, "Is my work experience related to the job or internship I'm applying for?" If yes, consider using a chronological résumé. If no, consider using a skills résumé. Your writing needs to be error-free, clear, concise, and easily readable.

Follow the components for either the chronological résumé or the skills résumé.

<table>
<thead>
<tr>
<th>Chronological Résumé</th>
<th>Skills or Functional Résumé</th>
</tr>
</thead>
<tbody>
<tr>
<td>Create your letterhead &amp; use it for your cover letter and résumé. Include your name, mailing address, telephone number(s), and email address. Optional items are website address, or link to LinkedIn profile. (2 points)</td>
<td>Create your letterhead &amp; use it for your cover letter and résumé. Include your name, mailing address, telephone number(s), and email address. Optional items are website address, or link to LinkedIn profile. (2 points)</td>
</tr>
<tr>
<td>Avoid the title &quot;Résumé&quot; at the top of the page. (1 point)</td>
<td>Avoid the title &quot;Résumé&quot; at the top of the page. (1 point)</td>
</tr>
<tr>
<td>Education—include for the degree you are currently obtaining AND for previous degrees received: degree (BS or BA); major(s), minor(s), &amp; emphasis; academic institution (city &amp; state or city &amp; country); graduation date; GPA (optional); academic honors/scholarships (unless included elsewhere); and certifications/licenses. Eliminate high school once in your junior year of college. (4 points)</td>
<td>Education—include for the degree you are currently obtaining AND for previous degrees received: degree (BS or BA); major(s), minor(s), &amp; emphasis; academic institution (city &amp; state or city &amp; country); graduation date; GPA (optional); academic honors/scholarships (unless included elsewhere); and certifications/licenses. Eliminate high school once in your junior year of college. (4 points)</td>
</tr>
<tr>
<td>Work Experience—begin with your most recent experience and work backwards. For EACH position include: job title, company name, location (city &amp; state or city &amp; country), date of employment by month and year, and responsibilities with a focus on quantifying achievements and results. Use short statements or bulleted items for describing the responsibilities. Use correct tense. (7 points)</td>
<td>Relevant Skills &amp; Experience—use subheadings that outline your skills as they relate to the position you are seeking. Under each subheading, write statements that reflect that skill (see Sample Skills Headings handout on Chapter 14 Canvas module). Remember each statement can draw from academics, projects, employment, internships, undergraduate research, volunteer service, leadership, extra-curricular activities, etc. Use short statements or bulleted items for describing the responsibilities. (7 points)</td>
</tr>
</tbody>
</table>
| Include one additional component. Some options include the following: **Computer & Technical Skills**—include computer, field, lab, and other technical skills. **Leadership & Volunteer Service**—reflect contributions made through offices held, projects completed, services delivered, awards, etc. **Language Skills**—indicate level of proficiency. **Military Service**
**Presentations**
**Honors**
Only include high school activities and achievements when you are a freshman or only if they complement the position you're applying for. (3 points) | Work & Leadership History—include job titles, company name, location (city & state or city & country), and date of employment by month and year. Do NOT add any responsibilities or accomplishments, as these are outlined above in the Relevant Skills & Experience section. (3 points) |
Avoid use of personal pronoun (I). (1 point)
Avoid references on your résumé. (1 point)
Avoid personal data (height, weight, age, marital status, religion, or health; employers want to avoid possible hint of discrimination). (1 point)
Avoid hobbies unless they relate to professional interests or show traits the employer wants. (1 point)
Use strong active verbs and adjectives. (4 points)
Reads easily (headings, typeface, and spacing all aid in clear organization). (2 points)
Consistently use bolding and italics. (1 point)
Typed, 1 page, 1-inch margins. (1 point)
Use traditional serif or sans serif fonts. (1 point)
Use appropriate font size and style that is easy to read. (1 point)
Tailor the résumé to the job or internship announcement. (1 point)
Use correct grammar, spelling, punctuation, and word choice. (5 points)
Write concisely (1 point)
Write clearly (1 point)

Peer Review Sheet (worth 5 points)
Submit the peer review sheet, cover letter, and résumé from the peer review.

Project Assessment Letter (worth 15 points)
Prepare a 350-word letter about your employment project assignment and the process you used to complete the tasks. Your Project Assessment should answer the following questions, each of which is tied to the major goals of the assignment:

Writing in Context (3 points)
- How did the particular job you applied for affect how you wrote your letter? Did it change or affect how you presented yourself?
- How did applying for this position help you understand aspects of your experience you might need to develop more?

Project Management (3 points)
- What was the most challenging document to produce and why? Briefly describe and explain one of the significant revisions you made to this document after your initial draft.
- How well did you plan your work on this project?
- What might you have done differently?

Research (3 points)
- Which research resource proved to be the most beneficial for you? The least? Explain.
- What did you learn about the particular job field before composing your application letter?

Teamwork (3 points)
- What was one way that peer feedback helped you improve your work?
- How did responding to the work of others help you improve your own work?

Document Design: (3 points)
- What is the most effective aspect of your résumé in terms of design?
- What would you like to change about your résumé’s design?
Directions:
This is designed to be used by the student as a step-by-step analysis technique for evaluating performance of a small gasoline engine. From the repair manual, the student will find manufacturer’s recommendation which they will report on this form under “should be” and “reject size” columns, along with answering questions concerning the general condition of engine parts.

Make of Engine ___________________ Serial number __________________
Model __________________________ Type ____________________________
Model Interpretation: _____________________________________________

Pre-disassembly checks
1. Crankshaft end play.  Found _________ Should be ________________
2. Does the engine have a good spark? ______________________________
3. Remove the engine shroud.
4. Do a compression test by giving the flywheel a quick spin.
   Does the flywheel rebound sharply? __________. If NO, perform a leak down test as directed by your repair manual. Record PSI _______________
5. Drain the oil, remove the spark plug and muffler.
6. Disconnect and remove air cleaner, carburetor, gas tank, and governor linkage. Note the position of these parts. Draw a sketch of the governor linkage in respect to the carburetor and the governor system.

7. Remove crankshaft screen, nut, and starter mechanism.
8. Remove the flywheel.
   Flywheel magnet to armature air gap.  Found _______ Should be ______________
   Condition of flywheel key.  Found _______ Should be ______________
   Ignition breaker-point gap.  Found _______ Should be ______________
   General condition of breaker-points and mechanism to drive them.
   Does the condenser leak?
   General condition of ignition system wiring.
9. Remove the spark plug
   Spark plug gap  Found _______ Should be ______________
   Condition of spark plug.  Found _______ Should be ______________
   Make and number of spark plug.  Found _______ Should be ______________
Disassembly
10. Remove the cylinder head and report the condition of cylinder head and head gasket.

____________________________________________________________________________

11. Remove the valve cover plate.
    Valve tappet clearance.
    Intake
    Exhaust
    Found
    Should be

12. Remove the valve springs and valves. Report the general condition of valves (stem, face, and margin), valve seats, valve springs, and valve guides.
    ________________________________________________________________
    ________________________________________________________________

13. Remove the crankcase cover plate.
14. Note the position of the timing marks on the crankshaft and camshaft timing gears. If the marks are not visible, use a center punch and properly mark them.
15. Remove the camshaft and tappets. Mark the tappets so when assembling they will be placed in their respective bores. Why is this important?

16. Unbolt the connecting rod cap. Plastigage measurement between crankpin journal and connecting rod bearing at _______ pound inches of torque. Found

17. Push the piston and connecting rod out the top of the cylinder.

   If needed, use a ridge reamer to remove the ridge at the top of the cylinder.

18. General Condition of piston skirts.

19. Remove the crankshaft.
20. Piston ring groove clearance with new ring. Found _______ Reject size ____________

    Found
    Reject Size
    Compression Ring (Top)
    Compression Ring (Center)
    Oil (Bottom)

22. Piston pin bore
    Pin diameter
    Out of round

    Found
    Reject Size
    Top
    Middle
    Bottom

General condition of the cylinder wall. Out of round? ________________________________
   a. General condition (scoring, bent)._____________________________________________________

   Journal measurements. Found Reject size
   Magneto
   Crank pin
   PTO

25. Bearings.
   Connecting rod measurements. Found Reject size
   Piston pin
   Crank pin

   a. Main bearing measurements.
   PTO
   Magneto

   b. General condition of bearings and seals.______________________________________________-

26. Carburetion — Explain general condition of the carburetor as related to specifications established by manufacturer for specific type of carburetor and engine.____________________________________________________________________________________
____________________________________________________________________________________
____________________________________________________________________________________

27. Other — Explain general condition of governor, air cleaner device, and starting mechanism, as related to specifications established by manufacturer.____________________________________________________________________________________
____________________________________________________________________________________
____________________________________________________________________________________

28. Determine the engine’s displacement in cubic inches. Show your calculations.
____________________________________________________________________________________
____________________________________________________________________________________
____________________________________________________________________________________
Reassembly

29. List new parts needed and their costs.

<table>
<thead>
<tr>
<th>Part Name and Number</th>
<th>Quantity</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
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</tbody>
</table>

Reassembly Specifications

30. Fill out the torque table below:

<table>
<thead>
<tr>
<th>Should be</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Head bolts</td>
<td></td>
</tr>
<tr>
<td>Connecting rod bolts</td>
<td></td>
</tr>
<tr>
<td>Flywheel</td>
<td></td>
</tr>
<tr>
<td>Others:</td>
<td></td>
</tr>
</tbody>
</table>

31. Cylinder head torque sequence. Sketch a drawing showing the location of head bolts. Number bolts in recommended tightening sequence.

32. What is the end play of the crankshaft after final assembly? ____________________

33. Final Analysis: Write a service report explaining the condition of the engine before repair, what parts were replaced, what repairs were performed, a list of parts that were replaced, and total cost to repair the engine.
Your Name: ____________________

Project: ____________________

Self Reflection on Skill Development:
(Describe how you started and the progression to where you are now concerning your engine maintenance skill development)

What have you learned?
How have you changed?
Provide an example of when you had a learning moment.
Introduction to Agricultural Systems Technology
ASTE 1010
Exam II

Directions: Chose the most correct answer for each of the following questions. You may not use any notes, textbook, or calculators on this section.

1. T or F – Application rate (gal/ac) of a field sprayer is controlled by the system pressure.

2. T or F – When a rate controller is not used, ground speed must be considered in calculating application rate for a sprayer.

3. T or F – Variations in the weight, size, and cleanliness of seed can contribute to an inaccurate dispensing rate.

4. T or F – Theoretical field capacity represents the quality of performance of a tillage implement.

5. T or F – Field efficiency can generally increase as machine size increases.

6. T or F – Throughput capacity would be an appropriate measure to describe an auger performance capability.

7. T or F – A gravity flow fertilizer spreader is calibrated by collecting material through seed tube openings.

8. T or F – Efficiency is used to evaluate the productivity of a machine.

9. T or F – You can only collect material for calibration if the broadcast seeder is stationary.

10. T or F – Operator rest stops can be a cause of lost capacity.

11. T or F – For power trains, as gear speed increases the corresponding tradeoff is less torque.

12. T or F – If there are an odd number of gears, the first and last gear turn in the same direction.
   (You may draw a picture to help visualize on your answer sheet)

13. What equation do you use for finding the efficiency of equipment?
   A. \( \frac{\text{actual capacity}}{\text{theoretical capacity}} \times 100 = \% \text{ efficiency} \)
   B. \( \frac{\text{theoretical capacity}}{\text{actual capacity}} \times 10 = \% \text{ efficiency} \)
   C. \( \frac{\text{theoretical capacity}}{W \times E_f} \times \text{actual capacity} = \% \text{ efficiency} \)
   D. \( \frac{C_e \times 8.25}{\text{theoretical capacity}} \times 100 = \% \text{ efficiency} \)

14. Refers to the amount of work that can be done by a machine at 100% efficiency:
   A. performance capacity
   B. mechanical capacity
   C. theoretical capacity
   D. actual capacity
15. The measurement of the amount of performance that has occurred in relation to theoretical capacity is called:
   A. capability
   B. efficiency
   C. capacity
   D. efficacy

16. If all you have is a bicycle wheel on a stick that you used to mark off the length of a boundary, what is the formula that you would use to find the length of the boundary?
   A. $\pi \times \text{diameter of wheel} \times \# \text{ of revolutions}$
   B. $\frac{\text{diameter of wheel} \times \# \text{ of revolutions}}{\pi}$
   C. $\sqrt{\pi \times \text{diameter of wheel} \times \# \text{ of revolutions}}$
   D. $\pi r^2 \times \text{diameter of wheel} \times \# \text{ of revolutions}$

17. The application rate of a sprayer is a function of flow rate of the nozzles (gal/min) and:
   A. boom diameter
   B. Tire circumference
   C. wire size
   D. speed of travel

18. Compared to grain drills, row crop planters typically plant crops in __________ row spacing.
   A. shallower
   B. narrower
   C. wider
   D. deeper

19. What is the percentage of available soil moisture used as the recommended irrigation guideline?
   A. 40%
   B. 60%
   C. 20%
   D. 50%

20. Which is the simplest and easiest method for measuring distance?
   A. Odometer
   B. Pacing
   C. Chaining
   D. Stadia

21. This term refers to the temporary overload that an engine can withstand or overcome?
   A. PTO rpm
   B. Dynamometer
   C. Lugging ability
   D. Lubrication

22. Tractor testing provides __________ so comparisons can be made between different models.
   A. Unstandardized results
   B. Service loads
   C. Environmental conditions
   D. Standardized results
23. Which theorem is the 3-4-5 method of laying out a right angle based upon?
   A. Pythagorean
   B. Tape-sine
   C. Chord
   D. Newton’s law of thermodynamics

24. Unlike traditional grain drills, air seeders are typically recommended to be calibrated using the:
   A. stationary calibration method
   B. tape-sine method
   C. metered pan collection method
   D. mobile calibration method
25. If a pesticide mixture was sprayed over 20 acres at a rate of 10.0 gallons per acre, what is the total amount of pesticide mixture, in gallons, that was sprayed?

26. Assume that you have a fan and an electric motor but no pulleys. The fan is designed to operate at 400 rpm, and the electric motor operates at 1500 rpm. What sizes of pulleys (in inches) will be needed to operate the fan at the designed speed? (Make sure your sizes meet the ratio requirements)

27. What is the net irrigation depth (inches) for an alfalfa producer has a wheel line irrigation system?
   - The flow rate of each sprinkler is 6.5 gallons per minute.
   - The sprinkler spacing is 40 feet with irrigation sets of 60 feet.
   - The irrigation efficiency is 60 percent.
   - The irrigation set time is 11.5 hours.
   - The soil has a readily available water holding capacity of 1.5 inch per foot of rooting depth.
   - The rooting depth is 4 feet.
   - The projected average ET rate for the next two weeks is 0.24 inches per day.
ON 1

28. Show all formulas, work and calculations in a neat, logically organized manner. Express quantities in correct units and draw a box around all answers.

a. TFC for operation
b. Time efficiency
c. Field efficiency
d. AFC for operation

Notes:
X1 = 45.5 min. maintenance;
X2 = 4.5 min. bin unloading;
X3 = 6.5 min. bin unloading;
X4 = 4.0 min bin unloading.

Average field speed while harvesting is 4.0 mph.

Combine grain platform width is 24-ft;

Effective cutting width = 23.5-ft. (0.5-ft overlap).

Average yield = 46.3 bu/ac.
Introduction to Agricultural Systems Technology
ASTE 1010
Exam I
Closed Note Section

Directions: Chose the most correct answer for each of the following questions. You may not use notes or calculators on this section.

True or False: Determine if each statement is true or false by writing the appropriate response on your answer sheet.

1. Problem solving can be approach using a variety of methods.
2. Diagrams are useful in solving problems in determining an unknown quantity.
3. A single (one) sample is all you need to identify a pattern within a larger population.
4. Rounding is used to eliminate figures that are not significant.
5. Stroke is the length of piston travel in the cylinder.
6. Volume is defined as the space that occupies two dimensions.
7. Flow charts assist in graphically showing steps or a process.
8. A caliper is a tool that has high precision.
9. Two primary categories of engines are compression ignition and spark ignition.
10. Approximate numbers are obtained by counting.
11. A machine can make work easier by increasing both magnitude and the distance of a force at the same time.
12. 450 has three significant figures.
13. 450 can be written in scientific notation as $4.5 \times 10^2$
14. Actual mechanical advantage of a machine is lower than theoretical mechanical advantage.
Multiple Guess: Mark the most correct answer choice in the blank provided. Use capital letters your answer sheet.

15. This is the ratio of the total volume in a cylinder to the clearance volume.
   A. Piston Displacement
   B. Engine Ratio
   C. Compression Ratio
   D. none of the above

16. This engine requires one revolution of the crankshaft to complete the four piston strokes.
   A. One-Stroke
   B. Four-Stroke
   C. One-cycle
   D. Two-Stroke

17. This is a timed rate of movement utilizing measurement of distance and time.
   A. Pressure
   B. Velocity
   C. Distance
   D. Force

18. This is an applied force in a twisting or rotary movement which is expressed in pound-feet.
   A. Torque
   B. Power
   C. Distance
   D. Force

19. With a class one lever the _________ is located at some point between the applied force and resistant forces.
   A. Lever arm
   B. Force applied
   C. Output force
   D. Fulcrum

20. Which one of these is an example of a class two lever?
   A. Crow-bar
   B. Wheelbarrow
   C. Seesaw
   D. Scissors

21. This simple machine’s mechanical advantage is the number of ropes that support the weight.
   A. Lever
   B. Combination of Pulleys
   C. Wheel and axle
   D. Single Pulley
22. With a class three lever the _________ is located at some point between the fulcrum and resisting force.
   A. Lever arm
   B. Fulcrum
   C. Force applied
   D. Wheel

23. A wheelbarrow is an example of a ____________ lever.
   A. Class 1
   B. Class 2
   C. Class 3
   D. Class 4

24. Which of the following is not an example of either an incline plane or a modified incline plane?
   A. Screw
   B. Single Wedge
   C. Double Wedge
   D. Wrench

25. For a four – stroke cycle engine, what are the event in order that take place?
   A. power, intake, compression, exhaust
   B. exhaust, intake, compression, power
   C. intake, compression, power, exhaust
   D. power exhaust, intake, compression
Introduction to Agricultural Systems Technology
Exam I
Open-Note Section

**Directions:** You may use a single one inch three ring binder that you have placed paper references in. You may also use a calculator. You may not use your textbook. **DO NOT** use your cell phone. No talking during the exam. Show your work. Put your answer and display the appropriate units on the answer sheet provided. **Show your work in the space provided below each question.**

26. An average dairy cow will produce about 6.5 gallons of milk each day. There are 200 cows to milk. Assume a milk price of $18.00/cwt. Average weight per gallon of milk is 8.5 pounds. There are 3.78 liters in a gallon. Answer the following questions.

**a)** How many pounds of milk are produced in a week?

**b)** Based on the selling price, how much gross income would be generated in a month?

**c)** Would a 40,000 liter bulk milk tank store enough milk for a week?

**d)** Which numbers are exact and approximate in the given scenario?

27. Solve the following problems involving a Class 1 lever.

**a)** How much weight can a person lift if they apply 50 lb. of force with a force arm of 2.5 feet long and a resistance arm of 18 inches?

**b)** How far will the force arm of the lever have to travel to lift the load 6”?

28. Calculate the engine displacement of a 4-stroke, 3 cylinder engine whose Bore is 4.85 inches and Stroke length is 5.25 inches.
29. A person uses a large winch (wheel and axle) to raise a mass of 500 lb. The radius of the wheel is 20” and the radius of the axle is 4”. The load is attached to the axle and you will apply force to lift using the handle of the winch.
   a) Find the TMA of the winch.
   
   b) What theoretical force required to lift the load?
   
   c) If the efficiency of the winch is 40%, how much force will be needed to lift the load?

30. Calculate the mechanical advantage of the pulley system shown below.
ASTE 2830: Final RSS Sales Call Plan

You will revise your previous assignments (RSS#2 & RSS#3) to create the final RSS Sales Call Plan you can use during your sales call. You will submit this printed document in class on Monday, November 21 at 10:30 a.m. As always, please contact me through Canvas Inbox or kelsey.hall@usu.edu with questions or comments.

The RSS Sales Call Plan should include these items:

Part I: Sales Call Goal – Refer to the lecture on writing SMART Sales Call Goals & Chapter 3 about the types of sales call goals.

<table>
<thead>
<tr>
<th>Great (5 points)</th>
<th>Fair (3 points)</th>
<th>Poor (1 point)</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Wrote one sales call goal that fit one of these types: revenue, behavioral, informational or relational.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• The type of sales call goal was correctly identified.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• The sales call goal was written in a way that was SMART; it was specific, measurable, achievable, results-focused, and time bound.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Did one of the following:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Did not identify the type of sales call goal.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>OR</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Did not follow the SMART method.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Did the following:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Did not identify the type of sales call goal or incorrectly identified the sales call goal.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Did not follow the SMART method.</td>
<td></td>
<td></td>
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</tbody>
</table>

Part II: Sales Call Agenda – Refer to the GAME Plan lecture, specifically the action items & how to write a good agenda.

“The agenda I will go through to accomplish this goal during the sales call is as follows…”

<table>
<thead>
<tr>
<th>Great (10 points)</th>
<th>Fair (7 points)</th>
<th>Poor (4 or less points)</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Clearly described what actions will be taken.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Started each agenda item with an action verb.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Clearly stated the time for each action item.</td>
<td></td>
<td></td>
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<tr>
<td>• Made sure the agenda items were specific, results-oriented, timed, and realistic.</td>
<td></td>
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<tr>
<td>• Discussed what you are going to do and say, but lacked detail.</td>
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<td></td>
</tr>
<tr>
<td>• Did not include the time frame for each action item.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• The agenda was a few lines that vaguely described what actions will be taken.</td>
<td></td>
<td></td>
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<tr>
<td>• The action items were not started with action verbs.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• No time frame was included for each action item.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Agenda items were not specific, results-oriented, timed, and realistic.</td>
<td></td>
<td></td>
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</tbody>
</table>

Part III: The Opening – Refer to Chapter 6 & the lecture content in the module

You create an impression with the prospect that sets the stage for all communication. You submit this part of the assignment by completing each statement as a full sentence or sentences.

I plan to make a positive impression by…

<table>
<thead>
<tr>
<th>Great (3 points)</th>
<th>Fair (2 points)</th>
<th>Poor (1 points)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Included 3 specific, preparatory actions that connect to the making of a positive impression, referring to ideas in the textbooks.</td>
<td></td>
<td></td>
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<tr>
<td>Included only 2 specific, preparatory actions, or the response doesn’t communicate an understanding of behaviors that lead to positive impressions.</td>
<td></td>
<td></td>
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<tr>
<td>Omitted or did not clearly communicate those preparatory actions.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

I will build rapport by saying…

Another possible rapport building topic would be…

<table>
<thead>
<tr>
<th>Great (3 points)</th>
<th>Fair (2 points)</th>
<th>Poor (1 points)</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Used the exact words that you will say to the prospect to build rapport.</td>
<td></td>
<td></td>
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<tr>
<td>• Told why the topic was selected.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Listed how that topic will benefit the salesperson.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Included a second possible rapport building topic. Used the exact words that you will say to the prospect. Told why the topic was selected. Listed how the topic will benefit the salesperson.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Did not include the exact words that will be said to the prospect to build rapport.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Included a second possible rapport-building topic.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Did not match your prospect profile from the RSS #1 assignment or doesn’t demonstrate understanding of rapport building.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Paraphrased or described the topic the salesperson would discuss with the prospect to build rapport.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Did not include a second possible rapport-building topic.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
I plan to bring the conversation around to his/her business by transitioning with the following statement...

<table>
<thead>
<tr>
<th>Great (3 points)</th>
<th>Fair (2 points)</th>
<th>Poor (1 point)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Provided a well-defined topic for the transition to his or her business and what/how to say as a result of that.</td>
<td>Provided a vague topic for the transition to his or her business.</td>
<td>Did not include a transition to his or her business. Or the transition was not related to the business.</td>
</tr>
</tbody>
</table>

Great (3 points)
- Provided a well-defined topic for the transition to his or her business and what/how to say as a result of that.

Fair (2 points)
- Provided a vague topic for the transition to his or her business.

Poor (1 point)
- Did not include a transition to his or her business. Or the transition was not related to the business.

I will lead into the business call using the following type of transition: _______________. By saying the following...

Another alternative for a transition I could use would be... By saying the following...

<table>
<thead>
<tr>
<th>Great (3 points)</th>
<th>Fair (2 points)</th>
<th>Poor (1 point)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Named a transition type from the ProSelling textbook, included the words that fit with the style in the textbook, and used the words that will be said to the prospect. Provided another alternative for a transition and the wording fit the style of that opening.</td>
<td>Provided one transition type but not the words that will be said to the prospect. Provided an alternative transition but not the exact wording that fit with the style.</td>
<td>Provided no transition topic and the wording did not fit the style of that transition. Provided an alternative transition with wording that did not fit that style or the exact phrase said to the prospect.</td>
</tr>
</tbody>
</table>

Great (3 points)
- Named a transition type from the ProSelling textbook, included the words that fit with the style in the textbook, and used the words that will be said to the prospect. Provided another alternative for a transition and the wording fit the style of that opening.

Fair (2 points)
- Provided one transition type but not the words that will be said to the prospect. Provided an alternative transition but not the exact wording that fit with the style.

Poor (1 point)
- Provided no transition topic and the wording did not fit the style of that transition. Provided an alternative transition with wording that did not fit that style or the exact phrase said to the prospect.

Part IV: Probing – Refer to Chapter 7, SPIN Selling question examples, & the lecture content

Probing is the process of gathering information from the prospect necessary to discover their needs, find solutions, and to complete the sale. Build a question flow for your RSS product or service using the SPIN (Situation, Problem, Implication, Need Payoff) Selling technique. Type a list of questions organized as shown below: 3-5 Situation questions, 1-3 Problem questions, 1-2 Implication questions, and 1-2 Need Payoff questions. Use a mix of open-ended, closed-ended, confirming, and clarifying questions. Copy this statement for your script before typing your list of questions: I will ask the following questions, using a conversational format in order to probe the needs of my prospect.

**Situation Questions**
1.
2.
3.
(Up to 5 questions)

**Problem Questions**
1.
(Up to 3 questions)

**Implication Questions**
1.
(Up to 2 questions)

**Need Payoff Questions**
1.
(Up to 2 questions)

<table>
<thead>
<tr>
<th>Great (20-18 points)</th>
<th>Fair (17-15 points)</th>
<th>Poor (14 or less points)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Each question is written down in conversational format. The SPIN Selling technique was correctly used. The types of questions were worded according to the textbook authors’ advice. The questions were appropriate for the information provided about the prospect in RSS #1 assignment.</td>
<td>Questions are not written down in consistent conversational format. Most questions were appropriately written following the SPIN Selling question flow. You did not use a mix of question types or did not begin the question with the appropriate phrasing. Some of the questions did not connect with the information provided about the prospect in RSS #1 assignment.</td>
<td>Questions were not written down in a conversational format. The SPIN Selling question flow was attempted, but some questions were out of sequence. Questions did not begin with the appropriate phrasing. Information presented in the RSS #1 assignment did not connect with the questions asked of the prospect.</td>
</tr>
</tbody>
</table>
Part V: Features-Advantages-Benefits Statements
First, you will detail information on two competitors. Competitors profiled typically are leaders in the industry. This section should provide sufficient detail to demonstrate that you understand how competitors are perceived in the marketplace as well as their particular strengths and weaknesses vis-à-vis the product you are selling. Incorporate information that could be used when making your sales presentation to your prospect to demonstrate why he or she should consider your company instead of a competitor. **Repeat each question then provide your response.** I suggest you boldface the question to make it easier to organize and find information.

- What are the two competitors’ brand or model names? (1 point)
- What are two strengths and two weaknesses of each of the competitors' products? (2 points)
- How do these competitors’ strengths and weaknesses compare with those of your company’s product? (1 point)
- Based on this comparison, where can your company, you and your product provide value? (1 point)

Then you will write **4 to 6 Features-Advantages-Benefits (FAB) Statements** that are of the highest relevance and importance to your prospect. Your FAB Statements will follow the three-column format illustrated below.

<table>
<thead>
<tr>
<th>Feature</th>
<th>Advantage</th>
<th>Benefit</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td></td>
<td></td>
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<tr>
<td>3.</td>
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<td></td>
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<tr>
<td>4.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Grading Rubric for FAB Statements**

<table>
<thead>
<tr>
<th>Great (15-11 points)</th>
<th>Fair (10-6 points)</th>
<th>Poor (5 or less points)</th>
</tr>
</thead>
<tbody>
<tr>
<td>The features began with facts or data about the product or service (tangible and intangible features). The advantages explained how the product or service fit the prospect relative to the alternative solutions. The claims for why the product or service is a good choice were backed by evidence. The benefits point out how the features and advantages impact the prospect. You used good phrasing for the FAB statements, per the examples on pages 233-237. The FAB statements relate to the goals and needs discovered during RSS #1 assignment.</td>
<td>The FAB statements did not all address the benefits that relate directly to the product or service. Some of the advantages did not tell what would happen when the product or service is used (how it fits the prospect). The claims for why the product or service is a good choice were not all backed by evidence. A few FAB statements focused too much on the features rather than a balance between the advantages and benefits. The FAB statements did not use the suggested phrasing from the textbook and appropriate information from the RSS #1 assignment.</td>
<td>The features did not highlight tangible and intangible features (facts and data) about the product or service. The advantages did not tell what would happen when the product or service is used (how it fits the prospect). The claims for why the product or service is good were not backed by evidence. You did not use good phrasing for the FAB statements, per the examples on pages 233-237. The FAB statements failed to relate to the goals and needs discovered during RSS #1 assignment.</td>
</tr>
</tbody>
</table>

Part VI: Handling the Objection
Objections are **valid** reasons for not buying, such as the lack of information, misunderstanding information, misinformation, excuses, and valid concerns. The best practice for handling objections has four steps:

1. LISTEN to the objection (For this assignment, imagine you listened to your prospect.)
2. RESTATE the objection
3. ASK for more information
4. HANDLE the objection

An experienced salesperson should seldom if ever encounter an objection for which there is no plan. **Type** five DIFFERENT objections that you could encounter in your sales presentation. After each objection, answer in a conversational format how you will handle it by using the four steps. Place your exact words in quotation marks.

Objection 1: Handling Objection:  
Objection 2: Handling Objection:  
Objection 3: Handling Objection:  
Objection 4: Handling Objection:  
Objection 5: Handling Objection:
Objection 5:
Handling Objection:

Grading Rubric for Objections

<table>
<thead>
<tr>
<th>Great (10-8 points)</th>
<th>Fair (7-5 points)</th>
<th>Poor (4 or less points)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stated in conversational format. Objection is specific and directly applies to the product you are attempting to sell them.</td>
<td>Objection is vague or is not relevant to particular product you are selling.</td>
<td>Not stated in conversational format. Objection has no relevance to product you are selling them.</td>
</tr>
</tbody>
</table>

Grading Rubric for Handling the Objections

<table>
<thead>
<tr>
<th>Great (10-8 points)</th>
<th>Fair (7-5 points)</th>
<th>Poor (4 or less points)</th>
</tr>
</thead>
</table>
| Stated in conversational format and is in a “Listen-Restate-Ask-Handle” format. 
- You have restated the objection to show your prospect you understand the concern. 
- You ask a question or two questions that reveal information you can use to address the problem so that you can offer a solution. 
- You handle the objection by offering a specific solution to fix the problem or concern before it occurs (use one of the six techniques listed in the textbook). 
- You are able to turn the objection into a selling point. | Stated in conversational format with a general solution to the problem. You forget to do one or two of the following: 
- Ask a question or two questions. 
- You do not use one of the specific techniques for handling the objection. 
- You offer a solution to the problem, but it isn’t one that you can take care of personally. You instead show ways to fix the problem without your assistance. | Not stated in conversational format. Objection is not restated. 
- You ignore the objection by placing the blame elsewhere OR you do not provide a specific technique for handling the objection. 
- You fail to offer them a solution. |

Part VII: The Close

The trial close is a good technique to use to determine whether your prospect is ready to buy. Formulate a question that you might use to help you determine whether your prospect is willing and ready to buy. Provide two different questions from which you could use.

**Trial Close 1:**

**Trial Close 2:**

The close is asking for the order, accomplishing the sales call objective, and obtaining a commitment from the prospect. In a conversational format, prepare two different techniques of closing that will be appropriate for your sales presentation. **Provide the type of close and the exact words you will use in quotation marks.**

Close 1 (type the type of close in the parentheses):

Close 2 (type the type of close in the parentheses):

Next Step - After you have accomplished your objective, make certain you and your customer both know what the next step is. Outline the next step and when it will take place in conversational format.

**Next Step:**

Grading Rubric for Trial Close 1 and Close 1

<table>
<thead>
<tr>
<th>Great (4 points)</th>
<th>Fair (2 points)</th>
<th>Poor (0 points)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Includes the types of close used. Uses examples from lecture, Canvas module, or the book. In conversational format and easily recognizable that you are trying to gain commitment from the customer. Very specific and detailed about your sales call goal.</td>
<td>Uses examples from book, Canvas module, or lecture. Approach is vague and undetailed.</td>
<td>Types of close used are not from the book, Canvas module, or lecture. Very vague and not in conversational format.</td>
</tr>
</tbody>
</table>
Grading Rubric for **Trial Close 2 and Close 2**

<table>
<thead>
<tr>
<th>Great (4 points)</th>
<th>Fair (2 points)</th>
<th>Poor (0 points)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Includes the types of close used. Uses different examples from book, Canvas module, or lecture than in trial close #1 or close #1. In conversational format and easily recognizable that you are trying to gain</td>
<td>Uses different examples from the book, Canvas module, or lecture. Approaches are vague and undetailed.</td>
<td>Uses the same approaches as trial close #1 or close #1, or does not use a specific closing technique from the book, Canvas module or lecture. Very vague and not in a conversational format.</td>
</tr>
</tbody>
</table>

Grading Rubric for **Next Step (2 points)**

<table>
<thead>
<tr>
<th>Great (2 points)</th>
<th>Fair (1 point)</th>
<th>Poor (0 points)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thanked and recapped the prospect’s decision about the sale. Stated specific time for appointment to follow-up with him or her in the future.</td>
<td>Recapped decision about sale.</td>
<td>Ended without planning future meeting with prospect.</td>
</tr>
</tbody>
</table>

**Materials Needed during Sales Call**

1. **Sales call agenda** used during your sales call
2. Backup Sales Information (the one item your team prepared to use during the sales call: media kit, pricing details, product features, brochure, referral list, trial research, testimonial, video, outline of your demonstration of product, etc.)

**Formatting (8 points)**

- Use 10-point or 12-point sans serif (Arial, Calibri, etc.) or serif (Times New Roman, Georgia, etc.) font with 1-inch margins
- Use headings & subheadings to organize your information in the sales call plan
  - Each heading & subheading should preserve parallel structure. If the first heading is a verb, the second heading should be a verb.
- Use color to make the document look visually pleasing
- Use a staple to keep your written report together

**Grading Criteria**

**Grammar, Spelling, and Punctuation**

You will use correct spelling, punctuation, word choice, and grammar. I remove 0.5 points for each error; however, I do not deduct more points for seeing the same error more than once.
Utah State University
Cooperative Education Internship Agreement

Student Name ____________________________ Major _____________________ A# ____________________

On-Campus E-mail: __________________________ Office E-mail __________________________

Street Address ____________________________ City ______________ State ____ Zip ____________

Telephone: Home ______________________ Work __________________ Course Number __________

Faculty Co-op Coordinator Name __________________________ Campus Phone _______________

Company/Business ___________________________ Immediate Supervisor’s Name __________________

Work Address ____________________________ City ______________ State ____ Zip ____________

Rate of Pay ______________ Hours worked weekly ______________ Supervisor’s Work Phone ______________

Semester Enrolled: Fall Spring Summer Year ____________

Work Schedule: ______________ ______________ ______________ ______________

Monday Tuesday Wednesday Thursday Friday

Statement of Student’s Learning Objectives

You will be required to establish five learning objectives for the specified grading period. The learning objectives must be originated by you, the student, approved by the employer/supervisor, and reviewed by the department faculty co-op coordinator for validity and relative value with all parties in agreement.

ATTACH A COPY OF YOUR 5 LEARNING OBJECTIVES TO THIS FORM

Agreement

We, the undersigned, agree with the validity of the learning objectives listed above (or attached). The employer and the college agree to provide the necessary supervision and counseling to insure that the maximum educational benefit may be achieved from the student work experience. The student agrees to abide by the cooperative education guidelines as outlined in the Student Manual. The supervisor will evaluate the student’s learning objectives and work performance at the end of the grading period. The university will award academic credit for successful accomplishment of the objectives in the cooperative education student manual.

__________________________________________ date __________________________
Student date Work Supervisor date Faculty Coordinator date
# Employer Evaluation of Learning Objectives

*Instructions - Read Carefully*

Please rate the employee according to how well he/she achieved each learning objective according to the following rating scale:

1 = Failed to meet minimum requirements  
2 = Limited accomplishment  
3 = Average or expected accomplishment  
4 = Exceeds average performance  
5 = Unique or outstanding performance

Please write/type learning objectives below or attach a sheet listing objectives.

<table>
<thead>
<tr>
<th>Learning Objectives</th>
<th>Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
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<tr>
<td>2</td>
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<td>3</td>
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<td>4</td>
<td></td>
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<tr>
<td>5</td>
<td></td>
</tr>
</tbody>
</table>

Supervisor’s Signature ____________________________________________ Date __________________________
Employer Evaluation of Student Performance

Instructions - Read Carefully

This rating sheet provides a practical method through which the ability of the individual can be judged with a reasonable degree of accuracy and uniformity. Indicate your opinion of this employee by placing a X on the phrase in the block which seems best to fit the employee. If you can't make up your mind between two phrases, place your X in the narrow space between two blocks. Please follow instructions carefully.

1. Use your own independent judgment.

2. Disregard your general impression of the employee and concentrate on one factor at a time.

3. When rating an employee, call to mind instances that are typical of his/her work and way of acting. Do not be influenced by UNUSUAL SITUATIONS which are not typical.

4. Make your rating with the utmost care and thought be sure it represents a fair and square opinion. DO NOT ALLOW PERSONAL FEELING TO GOVERN YOUR RATING.

5. After you have rated the employee on all factors, write at the bottom of the sheet any additional information about the employee which you feel has not been covered by the rating report, but which is essential to a fair appraisal.

---

Knowledge of work
- Practically none
- Below average
- Acceptable knowledge
- Somewhat above average
- Well informed
- Extremely well informed

Effect on Workers
- Often breeds trouble and dissatisfaction
- Sometimes causes dissension
- No outstanding effects on co-workers
- Better than average
- Promotes cooperation and good will
- Outstanding for loyalty and cooperation

Promptness
- Always tardy
- Must be reminded occasionally
- Usually prompt
- Never late without good excuse
- Almost never late
- Always prompt

Responsibility
- Careless and negligent
- Not very reliable
- Accepts responsibility when asked
- Accepts responsibility w/o being told
- Accepts responsibility Above Average
- Exceptionally reliable

Accuracy
- Is highly inaccurate
- Is often inaccurate
- Makes occasional errors
- Somewhat above average
- Rarely makes mistakes
- Never makes mistakes

Quantity of Work
- Amount of work unsatisfactory
- Turns out just enough To get by
- Turns out fair amount
- Always finishes allotted amount
- Turns out more than average amount
- Consistently outputs unusually large amount

Initiative
- Must always be told what to do
- Needs considerable supervision
- Needs direction and help in some cases
- Needs little supervision
- Pushes work through on own initiative
- Always finds extra work to do

Application
- Indifferent and lazy
- Tendency toward indifference
- Average application
- Interested and diligent
- Puts extra effort into work
- Works continuously and enthusiastically

Possibilities for promotion
- None
- Lacks some necessary traits
- Good enough for present job
- Improving self through study
- Has great future possibilities
- Is promotable now

Ability to handle public
- Difficult personality
- Likely to antagonize people
- Hesitant and diffident
- Pleasant and courteous
- Ingenious and tactful
- Unusual personality and aptitude

Overall Rating:
- Excellent
- Very Good
- Average
- Marginal
- Poor

Has this evaluation been discussed with the student? Yes No

Additional Information:

______________________________
Date _______________________

Supervisor Signature
Student Name ______________________________________

**Student Evaluation of Learning Objectives**

*Instructions - Read Carefully*

Please rate the employee according to how well he/she achieved each learning objective according to the following rating scale:

- 1 = Failed to meet minimum requirements
- 2 = Limited accomplishment
- 3 = Average or expected accomplishment
- 4 = Exceeds average performance
- 5 = Unique or outstanding performance

Please write/type learning objectives below or attach a sheet listing objectives.

<table>
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<td>4</td>
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<tr>
<td>5</td>
<td></td>
</tr>
</tbody>
</table>

Student's Signature ______________________________________ Date __________________
Student Evaluation of Student Performance

Instructions - Read Carefully

This rating sheet provides a practical method through which the ability of the individual can be judged with a reasonable degree of accuracy and uniformity. Indicate your opinion of this employee by placing a X on the phrase in the block which seems best to fit the employee. If you can’t make up your mind between two phrases, place your X in the narrow space between two blocks. Please follow instructions carefully.

1. Use your own independent judgment.
2. Disregard your general impression and concentrate on one factor at a time.
3. When rating an yourself, call to mind instances that are typical of your work and way of acting. Do not be influenced by UNUSUAL SITUATIONS which are not typical.

<table>
<thead>
<tr>
<th>Knowledge of work</th>
<th>Practically none</th>
<th>Below average</th>
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<th>Somewhat above average</th>
<th>Well informed</th>
<th>Extremely well informed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Effect on Workers</td>
<td>Often breeds trouble and dissatisfaction</td>
<td>Sometimes causes dissension</td>
<td>No outstanding effects on co-workers</td>
<td>Better than average</td>
<td>Promotes cooperation and good will</td>
<td>Outstanding for loyalty and cooperation</td>
</tr>
<tr>
<td>Promptness</td>
<td>Always tardy</td>
<td>Must be reminded occasionally</td>
<td>Usually prompt</td>
<td>Never late without good excuse</td>
<td>Almost never late</td>
<td>Always prompt</td>
</tr>
<tr>
<td>Responsibility</td>
<td>Careless and negligent</td>
<td>Not very reliable</td>
<td>Accepts responsibility when asked</td>
<td>Accepts responsibility w/o being told</td>
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<td>Somewhat above average</td>
<td>Rarely makes mistakes</td>
<td>Never makes mistakes</td>
</tr>
<tr>
<td>Quantity of Work</td>
<td>Amount of work unsatisfactory</td>
<td>Turns out just enough To get by</td>
<td>Turns out fair amount</td>
<td>Always finishes allotted amount</td>
<td>Turns out more than average amount</td>
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</tr>
<tr>
<td>Initiative</td>
<td>Must always be told what to do</td>
<td>Needs considerable supervision</td>
<td>Needs direction and help in some cases</td>
<td>Needs little supervision</td>
<td>Pushes work through on own initiative</td>
<td>Always finds extra work to do</td>
</tr>
<tr>
<td>Application</td>
<td>Indifferent and lazy</td>
<td>Tendency toward indiffERENCE</td>
<td>Average application</td>
<td>Interested and diligent</td>
<td>Puts extra effort into work</td>
<td>Works continuously and enthusiastically</td>
</tr>
<tr>
<td>Possibilities for promotion</td>
<td>None</td>
<td>Lacks some necessary traits</td>
<td>Good enough for present job</td>
<td>Improving self through study</td>
<td>Has great future possibilities</td>
<td>Is promotable now</td>
</tr>
<tr>
<td>Ability to handle public</td>
<td>Difficult personality</td>
<td>Likely to antagonize people</td>
<td>Hesitant and diffident</td>
<td>Pleasant and courteous</td>
<td>Ingenious and tactful</td>
<td>Unusual personality and aptitude</td>
</tr>
</tbody>
</table>

Overall Rating: Excellent Very Good Average Marginal Poor

Time and Work Verification

In order to justify credit awarded, each student must verify the total number of hours worked. Complete the following:

Rate of Pay ___________________ Total Hours Worked ___________________ Total Wages Earned ___________________

Student Signature: ______________________ Date: ______________________
Confidential Student Evaluation of the Work Experience

Please type or print your responses to the following questions regarding your work experience during this past work period. Make additional comments if you wish. The purpose of the form is to provide opportunity for frank appraisal of the job location in the interests of the employer and future students.

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Excellent</th>
<th>Good</th>
<th>Average</th>
<th>Poor</th>
<th>Very Poor</th>
<th>No Observation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Work experience relates to field of study</td>
<td></td>
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<tr>
<td>2. Adequacy of employer supervision</td>
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<tr>
<td>3. Helpfulness of supervisor</td>
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<tr>
<td>4. Cooperativeness of fellow workers</td>
<td></td>
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<tr>
<td>5. Opportunity to use academic learning</td>
<td></td>
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<td>6. Opportunity to develop human relations skills</td>
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<td>7. Provided levels of responsibility consistent with student ability and growth</td>
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<td>8. Opportunity to develop communication skills</td>
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<td>9. Opportunity to develop creativity skills</td>
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<td>10. Opportunity to solve problems</td>
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<tr>
<td>11. Opportunity to develop critical thinking skills</td>
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<td></td>
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<tr>
<td>12. Helpfulness of faculty coordinator</td>
<td></td>
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<tr>
<td>13. Overall evaluation of Co-op experience</td>
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<tr>
<td>14. Did you share this evaluation with your employer/supervisor?</td>
<td>Yes</td>
<td>No</td>
<td></td>
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</tr>
<tr>
<td>15. Would you work for this organization again?</td>
<td>Yes</td>
<td>No</td>
<td></td>
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</tr>
<tr>
<td>16. Would you recommend the Cooperative Education Internship Program to other students?</td>
<td>Yes</td>
<td>No</td>
<td></td>
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<tr>
<td>17. List ways you have benefited from this experience.</td>
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<tr>
<td>_______________________________________________________________________</td>
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</tr>
</tbody>
</table>

18. What did you learn about yourself, personally, as a result of this experience?
_____________________________________________________________________

19. If you were to make one suggestion to improve the Cooperative Education Internship Program, what would it be?
_____________________________________________________________________

20. Additional Comments:
_____________________________________________________________________

Please email your responses to donna.crow@usu.edu or turn this form in with your final report.

Student Name ___________________________ Student ID ______________________ Date ____________

Major _______________________________ Faculty Co-op Coordinator ________________________________

Company/Business _____________________ Immediate Supervisor’s Name ________________________________

Work Address ___________________________
OBJECTIVE: Provide an overview of your law and its impact on agriculture in print and oral media.

Print Media

Popular Press/Newspaper Article: A popular press/newspaper article regarding your law or regulation should be developed, peer-reviewed, and given as a handout to the class. The article should be a minimum of one page, single-spaced, and should be presented in layman’s terms.

Peer Review: Bring two copies of your popular press/newspaper article to class on October 12th. Each student should review at least two other students work. (Each article should have a minimum of two peer reviews.) After the peer review, please make corrections and/or revisions to your article.

Handout to Class: The revised article will be available to all students via Canvas.

Provide Instructor: 1) Electronic copy (PDF or Word) of the article. (bruce.miller@usu.edu) Prior to (by noon) of the day you present

Oral Presentation

Oral Presentation: The oral presentation should use electronic delivery media, such as Powerpoint to convey the information to the class and should be approximately 7-9 minutes in length.

Content: Your presentation should provide the following information:
- Date of legislation.
- Sponsor of the original bill/lead agency, or who was pushing for passage of this particular law.
(Some background may be appropriate here, especially for the older laws.) Who were proponents of the legislation?
- Original intent.
- Who does it regulate?
- Does this legislation impact previous regulation?
- How does this law affect agriculture, water quality, and/or the environment?
- You may want to provide an example.

Points to Consider:
Flow of material: Is your material arranged in a logical and organized manner?
Visual appeal: Color scheme, layout, etc.
Graphics: Are graphics included, do they add or detract from the material being presented?
Interest: Please! Be creative!

Provide Instructor: 1) Electronic copy of your oral presentation. (E-mail to bruce.miller@usu.edu)
2) The presentations will be available to all students via Canvas.

Important Dates:
October 3rd, 2016 - peer review of article. Please bring 2 copies to class and e-mail a copy to me (bruce.miller@usu.edu). Final presentations should be e-mailed to me by noon of the presentation day.
October 5th, 2016 - Oral presentations begin. Plan on covering five or six presentations each day.
# Law Article Checklist

**Author:** ______________________________________  
**Reviewer:** _____________________________________

<table>
<thead>
<tr>
<th>Evaluation Criteria</th>
<th>Excel 5</th>
<th>4</th>
<th>3</th>
<th>2</th>
<th>Poor 1</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Mechanics</strong></td>
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<tr>
<td>Spelling</td>
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<td>Grammar</td>
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<td>Punctuation</td>
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<tr>
<td><strong>Writing Style</strong></td>
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<td>Introduction</td>
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<tr>
<td>Objectively Written</td>
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<td>Supported by Facts</td>
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<td>Flow of Material</td>
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</tr>
<tr>
<td><strong>Substance</strong></td>
<td></td>
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<tr>
<td>Adequate Coverage of Law /Topic</td>
<td></td>
<td></td>
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<tr>
<td>Informative/Sufficiently Detailed</td>
<td></td>
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</tr>
<tr>
<td>Correct Information (references)</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Relevance to Agriculture/Environment</td>
<td></td>
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<tr>
<td><strong>Interest</strong></td>
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<tr>
<td>Visual Appeal</td>
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<tr>
<td>Graphics</td>
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<tr>
<td>Interest Approach</td>
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<tr>
<td><strong>Other</strong></td>
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<tr>
<td>Length</td>
<td></td>
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</tr>
<tr>
<td>Peer Reviewed by Two Reviewers</td>
<td></td>
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<tr>
<td>Incorporated Suggestions by Reviewers</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reviewed Two Articles</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Comments:**

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**Notes:**
- Peer reviewed by two reviewers.
- Incorporates suggestions by reviewers.
- Reviewed two articles.
## Rubric: Final Project Presentation

**Teacher Name:** Dr. Pate

<table>
<thead>
<tr>
<th>Student Name:</th>
<th>Score:</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>CATEGORY</th>
<th>20</th>
<th>15</th>
<th>10</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introduction (Organization)</td>
<td>The introduction is inviting, states the main topic and previews the structure of the presentation.</td>
<td>The introduction clearly states the main topic and previews the structure of the presentation, but is not particularly inviting to the audience.</td>
<td>The introduction states the main topic, but does not adequately preview the structure of the presentation nor is it particularly inviting to the audience.</td>
<td>There is no clear introduction of the main topic or structure of the presentation.</td>
</tr>
<tr>
<td>Start Up</td>
<td>Materials and equipment needed are explained clearly and are detailed. The generation of the project idea is well explained and relevant to agriculture.</td>
<td>Materials and equipment needed are explained but lack details. The generation of the project idea is explained and loosely relevant to agriculture.</td>
<td>Materials and equipment needed are stated. The generation of the project idea is stated.</td>
<td>Materials and equipment briefly mentioned. The generation of the project idea is not explained and irrelevant to agriculture.</td>
</tr>
<tr>
<td>Focus on Procedure (Content)</td>
<td>Clear, well-focused project. Procedure stands out and is supported by detailed information.</td>
<td>Procedure is clear but the supporting information is general.</td>
<td>Procedure is somewhat clear but there is a need for more supporting information.</td>
<td>The procedure is not clear. There is a seemingly random collection of information.</td>
</tr>
<tr>
<td>Grammar &amp; Spelling (Conventions)</td>
<td>Presentation makes no errors in grammar or spelling that distract the audience from the content.</td>
<td>Presentation has 1-2 errors in grammar or spelling that distract the audience from the content.</td>
<td>Presentation has 3-4 errors in grammar or spelling that distract the audience from the content.</td>
<td>Presentation has more than 4 errors in grammar or spelling that distract the audience from the content.</td>
</tr>
<tr>
<td>Transitions (Organization)</td>
<td>A variety of thoughtful transitions are used. They clearly show how the steps in the procedure are connected.</td>
<td>Transitions clearly show how procedure steps are connected, but there is little variety.</td>
<td>Some transitions work well; but connections between procedure steps are fuzzy.</td>
<td>The transitions between procedures are unclear or nonexistent.</td>
</tr>
<tr>
<td>Pictures</td>
<td>A variety of pictures from beginning and ending of the project are included and discussed. Pictures are clear and there is no signs of pixilation or distortion. Final result is displayed.</td>
<td>Pictures of the project are included. Pictures are clear and there is no signs of pixilation or distortion. Final result is displayed.</td>
<td>Pictures of the project are included. Pictures show some signs of pixilation or distortion. Final result is displayed.</td>
<td>A Picture from of the project is included. Pictures show some signs of pixilation or distortion. Final result is not displayed.</td>
</tr>
<tr>
<td>Time</td>
<td>5 minutes are used</td>
<td>1 to 2 minutes under or over time limit</td>
<td>2-3 minutes under or over time limit</td>
<td>4 minutes or more under or over time limit</td>
</tr>
<tr>
<td>Questions</td>
<td>Questions are thoughtfully answered. Answers provide a greater understanding of the project and procedure.</td>
<td>Questions are answered. Answers provide some insight to the project and procedure.</td>
<td>Questions are answered, but answers provide more confusion and there is a need for more clarification.</td>
<td>Questions are answered. Answers are not handled professionally and create greater confusion.</td>
</tr>
<tr>
<td>Conclusion (Organization)</td>
<td>The conclusion is strong and leaves the audience with a feeling that they understand what the presenter did.</td>
<td>The conclusion is recognizable and ties up almost all the loose ends.</td>
<td>The conclusion is recognizable, but does not tie up several loose ends.</td>
<td>There is no clear conclusion, the presentation just ends.</td>
</tr>
</tbody>
</table>

Comments:
Data-Outcomes
Agricultural Systems Technology

- **Individual Course Evaluations:** Individual agricultural systems core course evaluations provide an indirect measure of students’ progress on relevant IDEA objectives. Mean scores of converted averages for all “progress on learning objectives” are presented by year in the table below.

<table>
<thead>
<tr>
<th>Course</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASTE 1010</td>
<td>54</td>
<td>49</td>
<td>43</td>
<td>59</td>
<td>53</td>
</tr>
<tr>
<td>ASTE 2200</td>
<td>N/A</td>
<td>60</td>
<td>62</td>
<td>56</td>
<td>48</td>
</tr>
<tr>
<td>ASTE 2830</td>
<td>41</td>
<td>48</td>
<td>49</td>
<td>43</td>
<td>46</td>
</tr>
<tr>
<td>ASTE 3030</td>
<td>47</td>
<td>52</td>
<td>46</td>
<td>56</td>
<td>57</td>
</tr>
<tr>
<td>ASTE 3050</td>
<td>60.5</td>
<td>52.26</td>
<td>59.86</td>
<td>52</td>
<td>52.78</td>
</tr>
<tr>
<td>ASTE 3080</td>
<td>N/A</td>
<td>45</td>
<td>55</td>
<td>49</td>
<td>59</td>
</tr>
<tr>
<td>ASTE 4100</td>
<td>N/A</td>
<td>49</td>
<td>57</td>
<td>47</td>
<td>50</td>
</tr>
<tr>
<td>ASTE 5260</td>
<td>49</td>
<td>61</td>
<td>55</td>
<td>54</td>
<td>56</td>
</tr>
</tbody>
</table>

*Note.* Progress On Relevant Objectives (PORO) - weighted average of student ratings for the progress reported on objectives selected by instructor as "Important" or "Essential" for achievement in the course: 1 = No Apparent Progress, 2 = Slight Progress, 3 = Moderate Progress, 4 = Substantial Progress, and 5 = Exceptional Progress. Converted scores all have an average of 50 and a standard deviation of 10. The converted averages describes the status of evaluation scores relative to other classes in the comparison groups (IDEA database and USU) as either: “Much higher” (highest 10%, scores 63 or higher); “Higher” (next 20%, scores 56-62); “Similar” (Middle 40%, scores 45-55); “Lower” (Next 20%, scores 38-44); or “Much Lower” (lowest 10%, scores 37 or lower). For more information, please see [http://usu.edu/aaa/idea_faculty_faq.cfm](http://usu.edu/aaa/idea_faculty_faq.cfm)
**Student Internship Reports:** AST students are encouraged to participate in an internship during the course of study at USU. The AST program follows the assessment guidelines provided under the USU Cooperative Education Internship Agreement. These agreements are developed on a case by case manner to address each student's desired learning objectives. The internship reports are reviewed to assess accomplishment of learning objectives. Examples of evaluation forms are provided.

### Employer Evaluation of Learning Objectives

*Instructions - Read Carefully*

Please rate the employee according to how well he/she achieved each learning objective according to the following rating scale:

- 1 = Failed to meet minimum requirements
- 2 = Limited accomplishment
- 3 = Average or expected accomplishment
- 4 = Exceeds average performance
- 5 = Unique or outstanding performance

Please write/type learning objectives below or attach a sheet listing objectives.

<table>
<thead>
<tr>
<th>Learning Objectives</th>
<th>Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. This objective is to operate a Case LB333 baler and its included cab monitor so that it performs at its highest efficiency, by reading the owner's manual, receiving instruction from the dealership and my supervisor, and by hands on experience. This task will be evaluated by my supervisor. Upon baling each of the three crops of hay between the three months of June, July and August 2013.</td>
<td>4</td>
</tr>
<tr>
<td>2. This objective is to gain experience using a Harvest-Tec applicator for producing high quality hay. I will accomplish this by receiving instruction from my supervisor and by researching this product on the internet and discovering all the necessary situations for its use. My task will be measured by my supervisor in inspecting the quality of hay that I produce, upon baling each of the three crops of hay during the months of June, July and August of 2013.</td>
<td>4</td>
</tr>
<tr>
<td>3. This objective is to become educated in using Automated Field Guides by receiving instruction from the salesman and by hands on experience. This task will be measured by my supervisor by measuring my knowledge and efficiency of using this product. This objective will be completed after operating different farm implements during the months of June, July and August 2013.</td>
<td>5</td>
</tr>
</tbody>
</table>
# Employer Evaluation of Student Performance

**Instructions - Read Carefully**

This rating sheet provides a practical method through which the ability of the individual can be judged with a reasonable degree of accuracy and uniformity. Indicate your opinion of this employee by placing a X on the phrase in the block which seems best to fit the employee. If you can't make up your mind between two phrases, place your X in the narrow space between two blocks. Please follow instructions carefully.

1. Use your own independent judgement.
2. Disregard your general impression of the employee and concentrate on one factor at a time.
3. When rating an employee, call to mind instances that are typical of his/her work and way of acting. Do not be influenced by UNUSUAL SITUATIONS which are not typical.
4. Make your rating with the utmost care and thought, be sure it represents a fair and square opinion. DO NOT ALLOW PERSONAL FEELING TO GOVERN YOUR RATING.
5. After you have rated the employee on all factors, write at the bottom of the sheet any additional information about the employee which you feel has not been covered by the rating report, but which is essential to a fair appraisal.

<table>
<thead>
<tr>
<th>Knowledge of Work</th>
<th>Practically None</th>
<th>Below Average</th>
<th>Acceptable Knowledge</th>
<th>Somewhat Above Average</th>
<th>Excellent</th>
<th>Well Informed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Effect on Workers</td>
<td>Often Breeds Trouble and Dissatisfaction</td>
<td>Sometimes Causes Dissension</td>
<td>No Outstanding Effect on Co-workers</td>
<td>Better Than Average</td>
<td>Promotes Cooperation and Good Will</td>
<td>Outstanding For Loyalty and Cooperation</td>
</tr>
<tr>
<td>Promptness</td>
<td>Always Tardy</td>
<td>Must Be Reminded Occasionally</td>
<td>Usually Prompt</td>
<td>Never Late Without Good Excuse</td>
<td>Almost Never Late</td>
<td>Always Prompt</td>
</tr>
<tr>
<td>Responsibility</td>
<td>Careless and Negligent</td>
<td>Not Very Reliable</td>
<td>Accepts Responsibility When Asked</td>
<td>Accepts Responsibility Without Asking</td>
<td>Accepts Responsibility Without Questioning</td>
<td>Exceptionally Reliable</td>
</tr>
<tr>
<td>Accuracy</td>
<td>Is Highly Inaccurate</td>
<td>Is Often Inaccurate</td>
<td>Makes Occasional Errors</td>
<td>Somewhat Above Average</td>
<td>Rarely Makes Mistakes</td>
<td>Never Makes Mistakes</td>
</tr>
<tr>
<td>Quantity of Work</td>
<td>Amount of Work Uninsatisfactory</td>
<td>Turns Out Just Enough To Get By</td>
<td>Turns Out Fair Amount</td>
<td>Always Finishes Allocated Amount</td>
<td>Turns Out More Than Average Amount</td>
<td>Consistently Outputs Unusually Large Amount</td>
</tr>
<tr>
<td>Initiative</td>
<td>Must Always Be Told What To Do</td>
<td>Needs Considerable Supervision</td>
<td>Needs Direction and Help in Some Cases</td>
<td>Needs Little Supervision</td>
<td>Rights Work Thoroughly</td>
<td>Always Finds Extra Work To Do</td>
</tr>
<tr>
<td>Application</td>
<td>Indifferent and Lazy</td>
<td>Tenacity Toward Inefficiency</td>
<td>Average Application</td>
<td>Interested and Diligent</td>
<td>Puts Extra Effort Into Work</td>
<td>Works Continuously and Enthusiastically</td>
</tr>
<tr>
<td>Possibilities for promotion</td>
<td>None</td>
<td>Lacks Some Necessary Traits</td>
<td>Good Enough for Present Job</td>
<td>Improving Self Through Study</td>
<td>How Good Are Possibilities</td>
<td>Is Promotable Now</td>
</tr>
<tr>
<td>Ability to handle public</td>
<td>Difficult Personality</td>
<td>Likely to Antagonize People</td>
<td>Resilient and Difficult</td>
<td>Inconsiderate and Rude</td>
<td>Inconsiderate</td>
<td>Unusual Personality and Aptitude</td>
</tr>
</tbody>
</table>

Overall Rating:  Excellent [x] Very Good [x] Average [ ] Marginal [ ] Poor [ ]

Has this evaluation been discussed with the student? Yes [ ] No [x]
Employer Evaluation of Learning Objectives

Instructions - Read Carefully

Please rate the intern according to how well he/she achieved each learning objective according to the following rating scale:

1 = Failed to meet minimum requirements
2 = Limited accomplishment
3 = Average or expected accomplishment
4 = Exceeds average performance
5 = Unique or outstanding performance

Please write/type learning objectives below or attach a sheet listing objectives.

<table>
<thead>
<tr>
<th>Learning Objectives</th>
<th>Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Disassemble and rebuild a 1992 Top Air onion topper-windrower. Remove all bearings, chains, belts, and pulleys. Replace with new parts and reassemble. Paint when finished.</td>
<td>4</td>
</tr>
<tr>
<td>2. Disassemble and rebuild a 1997 Top Air onion single row loader. Remove all bearings, chains, belts, and pulleys. Replace with new parts and reassemble. Paint when finished.</td>
<td>4</td>
</tr>
<tr>
<td>3. Rebuild and manufacturer a section of the sorting line. Extensive welding and rebuilding old parts to make work on the new sorting line.</td>
<td>3</td>
</tr>
<tr>
<td>4. Build a 23’ conveyor belt.</td>
<td>4</td>
</tr>
</tbody>
</table>

Presentations of Senior Design Projects (ASTE 4900): This capstone course provides senior undergraduate students the opportunity to develop and exercise creative and imaginative talents in the design of agricultural related projects. The table below presents student achievement data.

<table>
<thead>
<tr>
<th>Year</th>
<th># Students</th>
<th>Grade Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>2016</td>
<td>14</td>
<td>10 A’s, 3 A-‘s, 1 B-</td>
</tr>
<tr>
<td>2015</td>
<td>10</td>
<td>8 A’s, 1 A-, 1 B+</td>
</tr>
<tr>
<td>2014</td>
<td>8</td>
<td>5 A’s, 3 A-‘s</td>
</tr>
<tr>
<td>2013</td>
<td>7</td>
<td>5 A’s, 1 A-, 1 B-</td>
</tr>
<tr>
<td>2012</td>
<td>7</td>
<td>4 A’s, 2 A-‘s, 1 B+</td>
</tr>
</tbody>
</table>
Data based decisions

Strengths

Strengths of the program included faculty expertise in managing agricultural operations and businesses, industry support for laboratory teaching aids and teaching facilities.

Weaknesses

Weaknesses of the program included limited space for accommodating large machinery for instructional purposes, low student enrollment and limited storage for laboratory teaching aids. There is a lack of strategic internships for students with industry.

Recommendations

Recommendations for the program include reorganization of laboratory policies for storage and reallocation of outdated surplus of teaching aids. Increase recruitment efforts to attach new students and curriculum alignment for emphasis to provide seamless transition for transfer students. An additional recommendation to address low student enrollments and limited strategic internships will be to identify new emphasis areas for curriculum development.

The following are recent examples of data-based decisions for program improvement.

- Data collected on industry demands for skilled and competent agricultural technology graduates have led to increase recruitment efforts to attract new students to increase enrollments. Enrollment has increased from 30 students to 42 students from 2010 through 2014.
- The ASTE program has gained the attention of existing students in other departments and has accepted several transfer students as well as increased the number of articulation agreements with other institutions. This has led to curriculum alignment efforts to provide seamless transition for timely program completion.
- Student feedback indicated limited strategic internships. Efforts have been made in collaboration with USU career services and CAAS student services advisor to identify new industry partners to provide students with diverse internship experience options.
- Cyclic trends identified in IDEA data indicate that as instructors identify and implement innovative teaching strategies students’ perceptions of learning accomplishments improve. Faculty are encouraged to develop curriculum innovations to improve student learning. Professional development presentations are encouraged to document improvements.
- Capstone course enrollments and student progress indicate that students are gaining necessary skills to be successful. Students are prepared through course work identified in individual course assignments outlined in the assessment plan. Considerations for improvement include integrating a computer generated drafting course to improve project design development.