Agricultural Studies
Program Assessment Report

June 2018

The mission of the Agricultural Studies program is to provide students with an understanding of the technical and social science factors that shape the food and fiber sector.
Contents

Assessment Activities .................................................................................................................................................. 5
  Time Frame Covered in Report ................................................................................................................................. 5
  Ag Studies Student Learning Outcomes and Assessment Activities ................................................................. 5
  Assessment Activities Since 2014 ............................................................................................................................. 6
  Assessment across Different Modes of Delivery, Locations and Timeframes ..................................................... 6
  Engaging Internal and External Stakeholders Regarding Assessment .......................................................... 7
  Assessment of Out-of-Classroom Activities ........................................................................................................... 7
  Changes to Student Learning Outcomes ................................................................................................................ 7
  Actions Taken from Previous Assessment Review Feedback .............................................................................. 8

Assessment Activity Results .................................................................................................................................... 9

  Direct Assessment of Student Learning .................................................................................................................. 9
  Out of Classroom Assessment Results .................................................................................................................. 10
  Indirect Assessment of Student Learning ............................................................................................................ 10
  Indirect Alumni Assessment Results ..................................................................................................................... 12
  Indirect External Stakeholder Assessment Results .............................................................................................. 12
  Significance of Findings ......................................................................................................................................... 14
  Assessment Actions, Change Timeframes, Accountability and Review .............................................................. 14
  Accessing Assessment Report Findings ................................................................................................................ 15

Action Plans ............................................................................................................................................................... 16

  Meeting Performance Expectations vs. Needs Improvement .................................................................................. 16
  Actions the Department Will Take to Improve Performance ............................................................................ 16
  Maintain/Improve Consistency of Courses Regardless of Instructor/Delivery Mode ....................................... 17
  Actions to Ensure Out-of-Classroom Learning .................................................................................................... 17
  Actions Regarding Indirect Student Assessment .................................................................................................. 17
  Actions Regarding Alumni Assessment ................................................................................................................ 17
  Actions Regarding Indirect External Stakeholder Assessment .......................................................................... 17
  Actions Regarding the Ag Studies Assessment Process ....................................................................................... 17
  Action Plan Summary Table .................................................................................................................................. 18

Appendix A: Ag Studies Assessment Plan .................................................................................................................. 20

Introduction .................................................................................................................................................................. Error! Bookmark not defined.
Mission: ...................................................................................................................................................................... Error! Bookmark not defined.
Section 1: Learning Outcomes ................................................................................................................................. Error! Bookmark not defined.
Section 1a – Agricultural Studies’ Student Learning Outcomes ........ Error! Bookmark not defined.

Section 1b – Measurability of Agricultural Studies’ Student Learning Outcomes ........ Error! Bookmark not defined.

Section 1c – Agricultural Studies’ Learning Outcomes and UWRF Strategic Goals.... Error! Bookmark not defined.

Section 1d – Agricultural Studies’ Student Learning Outcomes and Meeting the Professional and Intellectual Needs of Graduates ............. Error! Bookmark not defined.

Section 1e – Agricultural Studies’ Student Learning Outcomes and External Stakeholder Needs................................................................................................. Error! Bookmark not defined.

Section 1f – Broad Learning Outcomes are Supported by Specific Content/Skill Learning Outcomes ........................................................................................................................................ Error! Bookmark not defined.

Section 2. Profile of Where Learning Outcomes Are Being Achieved Error! Bookmark not defined.

Sections 2a and 2b – Specific Courses Associated with Agricultural Studies’ Student Learning Outcomes coupled with a Course Map........... Error! Bookmark not defined.

Section 2c – The Agricultural Studies’ Program and Out of Classroom Experiences .. Error! Bookmark not defined.


Sections 3a – Venues, Tools, Artifacts, and Methods for Direct Assessment of Agricultural Studies Student Learning Outcomes....................... Error! Bookmark not defined.

Section 3b – Out of Classroom Learning Experiences and Agricultural Studies’ Student Learning Outcomes ............................................................................................................ Error! Bookmark not defined.

Section 3c – Indirect Assessment of Agricultural Studies’ Student Learning Outcomes ........................................................................................................................................ Error! Bookmark not defined.

Section 4. Process for Assessment Improvement ............... Error! Bookmark not defined.

Section 4a – Not applicable ....................................................... Error! Bookmark not defined.

Section 4b – The Agricultural Studies’ Assessment Cycle .. Error! Bookmark not defined.

Section 4c – Comparability of and Assessment of Learning in Different Modes of Delivery, Locations, and Duration of Courses................................................. Error! Bookmark not defined.

Section 4d - Ag Studies Assessment Process Accountability Error! Bookmark not defined.

Section 4e – Who will maintain data & document assessment based actions .......... Error! Bookmark not defined.

Section 4f – Implementation of Ag Studies Revisions Based on Assessment Results.. Error! Bookmark not defined.

Section 4g – Processes/Procedures for Communicating Ag Studies Assessment Results and Actions ............................................................................................................. Error! Bookmark not defined.

Appendix B:  Ag Studies Post Test........................................................................................................................................ 31
Appendix C: Ag Studies Senior Feedback Survey ................................................................. 37

Appendix D: Graduating Seniors’ Open-Ended Question Responses .................................. 44
  What were the reasons you choose to do a major in Agricultural Studies? ...................... 44
  What do you think are the strengths of an Agricultural Studies major compared to other
  majors in CAFES? ........................................................................................................... 46
  What do you think are the weaknesses of an Agricultural Studies major compared to other
  majors in CAFES? ......................................................................................................... 48
  Do you have anything else you’d like to say about the Agricultural Studies program or UW-
  River Falls? .................................................................................................................. 50

Appendix E: Industry Feedback on Ag Studies Student Learning Outcomes .................. 52

Appendix F – Assessment Program Review ........................................................................ 54
Assessment Activities

Time Frame Covered in Report

This assessment report notionally covers the years 2010 – 2018, the time since the last Assessment Report the Department has been able to locate for the Agricultural Studies (Ag Studies) program. However, the program changed substantially in 2012 and the assessment plan was revised in 2014 (The Assessment Plan is included as Appendix A). As a result, this report will focus on the 2014 to 2018 years.

Ag Studies Student Learning Outcomes and Assessment Activities

The Ag Studies programs has three overarching student learning outcomes and several subcomponents. Ag Studies majors who successfully master the program’s student learning outcomes will, upon completion of their coursework, be able to:

1. demonstrate an understanding of ethical decision-making
2. demonstrate competence in a broad array of agricultural disciplines
   o Agricultural business competencies
     ▪ make decisions using economic principles
     ▪ use data to make decisions
     ▪ communicate business decisions effectively
   o Agricultural engineering technology competencies
     ▪ identify, analyze and solve technical problems
     ▪ apply engineering principles to agricultural systems
     ▪ evaluate numerous solutions to open-ended problems
   o Animal/Dairy science competencies
     ▪ understand animal nutrition and genetic principles
     ▪ properly care for and handle animals
     ▪ manage animal enterprises
   o Crops/Horticulture/Soils competencies
     ▪ understand crop plant characteristics and management practices required in growing crops
     ▪ understand soil formation and physical, chemical, and biological aspects of soils
     ▪ communicate the impact of crop production practices on soil properties and the environment
   o Agricultural Education competencies
     ▪ construct an argument supporting a specific position
   o Food Science competencies
     ▪ Understand food processing issues
3. demonstrate competence in the specific agriculture or related discipline that was chosen as an emphasis area within the major
In the past four years, the Agricultural Economics Department has initiated or modified the following Ag Studies assessment activities:

- Developed a post-test as a direct measure of students’ success in attaining the Ag Studies’ learning outcomes. We will modify the instrument during 2018-19 and administer it as a pre-test for the first time on Academic Day, 2018
- Modified the instrument used to gather industry feedback on the Ag Studies’ student learning outcomes to align with the revised list of outcomes
- Adopted the revised CAFES Internship Office’s internship supervisor evaluation form as the assessment instrument for this co-curricular activity
- Revised the senior exit survey to align with the revised list of outcomes
- Created a departmental advisory panel to provide alumni feedback on the programs managed by the Agricultural Economics department

**Assessment Activities Since 2014**

The Department of Agricultural assessment activities for the Ag Studies program reported on in this document are summarized in the following table.

<table>
<thead>
<tr>
<th>Assessment Activity</th>
<th>When Assessment Occurs</th>
<th>Years of Data Available</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-/Post-Test (Direct Measure)</td>
<td>Academic Day and December/May each year</td>
<td>Pre-test Starting Fall 2018 and Post-test 2017-18</td>
</tr>
<tr>
<td>Industry Feedback (Indirect Measure)</td>
<td>October each year</td>
<td>2014-2017</td>
</tr>
<tr>
<td>Internship Supervisor Survey (Indirect Measure)</td>
<td>Summer/Fall each year</td>
<td>0</td>
</tr>
<tr>
<td>Senior Exit Survey (Indirect Measure)</td>
<td>December/May each year</td>
<td>2014-2017</td>
</tr>
<tr>
<td>Alumni Advisory Committee (Indirect Measure)</td>
<td>January/February each year</td>
<td>1 (after Feb 2015)</td>
</tr>
</tbody>
</table>

**Assessment across Different Modes of Delivery, Locations and Timeframes**

The Ag Studies program offers no courses of its own. The program, therefore, defers to the departments across CAFES that offer the courses that Ag Studies majors take to ensure classes taught using different modes of delivery, locations and timeframes are assessed in consistent ways. We know that courses offered by the Agricultural Economics Department use a common post-test as the final quiz or as part of a final exam to ensure that classes they offer to ag studies students (and others) are assessed in a consistent fashion.
**Engaging Internal and External Stakeholders Regarding Assessment.**

With respect to internal stakeholders, one open-ended question in the senior exit survey asks majors who are about to graduate a series of open-ended questions:

- Why did they choose the Ag Studies major?
- What they think are the program’s strengths?
- What they think are the program’s weaknesses?
- What final thoughts they have about the program or their time at UWRF?

The department reviews these comments twice each year, during our semi-annual planning retreats and, when a pattern of comments is clear, adjust our program.

With respect to external stakeholders, the department gathers feedback in two ways:

- from employers about the relevance of the Ag Studies program’s student learning outcomes.
- the department formed an alumni/industry advisory committee in 2014 that meets once a year. To date, feedback from the advisory committee on the Ag Studies program has been minimal, but future meetings will seek their input more explicitly.

**Assessment of Out-of-Classroom Activities**

The Department is starting to gather assessment data for internships. The CAFES Internship Program developed a new supervisor feedback form that the department will use to assess the performance of Ag Studies students. The first data from this form is expected to be available after the summer of 2018.

In the senior exit survey, we ask students whether they have participated in the internship program, student clubs, undergraduate research, international experiences or learning communities.

**Changes to Student Learning Outcomes.** The primary change to the department’s student learning outcomes over the past 3 years was the specification of sub-outcomes. Initially, the department had only three over-arching student learning outcomes:

- Demonstrate an understanding of ethical decision-making
- Develop critical thinking skills by demonstrating an understanding of the links between the disciplines included in the major
- Demonstrate competence in a broad array of agricultural disciplines

We have retained the first learning outcome, developed the more specific sub-goals listed above in place of the second learning outcome, and focused on the “depth” of understanding gained from an emphasis or minor at the third learning outcome.
Actions Taken from Previous Assessment Review Feedback

During the most recent program assessment, the program was urged to develop a direct measure of student learning outcomes. In response, the Agricultural Economics Department spearheaded an effort to create a post-test with input from all five CAFES departments. The department asked the five department chairs to develop questions, in conjunction with relevant faculty, that address the student learning outcomes associated with their disciplines. That post-test, which is given to graduating seniors during the final three weeks of their last semester, was administered for the first time at the end of fall 2017 semester.
Assessment Activity Results

Direct Assessment of Student Learning

Direct measures for all of the Ag Studies program’s learning outcomes, except the sub-outcomes of demonstrating an ability to evaluate multiple solutions to an issue and their depth of agricultural competency, are collected using the post-test included in Appendix B. As noted above, the department developed and administered the post-test during fall semester 2017. As a result, relatively little data have been collected using this instrument and trend data would make no sense. Figure 1 shows the proportion of correct answers to the questions as they apply to the student learning outcomes noted above. Again, the department will modify this instrument during 2018-19 and administer it as a pre-test on Academic Day, 2018.

![Figure 1: Agriculture Studies Post Test Results, 2017-18 (N=5)](image)

We do not currently have a direct measure of the depth of agricultural competency – the diverse nature of the 15-credit emphasis or minor, where we expect this learning outcome to be achieved, makes direct assessment difficult. Depth is indirectly measured using the graduating senior exit survey, the internship supervisor surveys, and the employer survey.

Similarly, we don’t currently have a direct assessment of Ag Studies students’ ability to evaluate multiple solutions to a problem. Again, the disparate nature of the course work of these majors makes it difficult to create a standardized assessment of this ability.
The Agricultural Economics department will modify the post-test over time to address some concerns based on the first uses of the new instrument; there are, for example, more questions dealing with food science and too few focused on agronomy in the current version.

**Out of Classroom Assessment Results.** As noted, the department has just started gathering assessment data for Ag Studies majors who participate in the CAFES Internship program. As of now, we don’t have data to report.

**Indirect Assessment of Student Learning.**

**Quantitative Results.** At the end of their final semester at UW-River Falls, students graduating with an Agricultural Studies degree are invited to participate in an on-line exit interview (the question sequence is included in Appendix C). The department has been conducting senior exit interviews since 2001 but refined the questions in the fall of 2013 to align with the program’s student learning outcomes more closely and utilize the university-approved 6-point scale. Figure 2 indicates that a majority of graduating seniors agree or strongly agree that the major has improved their abilities with respect to all of the program’s student learning outcomes.

![Figure 2: Percent of Ag Studies Seniors Who Agree or Strongly Agree Program Has Improved Their Abilities, 2014-2018 (N=29)](image-url)
Table 2 presents these indirect measurements of Ag Studies students’ mastery of the program’s student learning outcome during each of the past five academic years. Because the data are relatively sparse, the estimate for any given student learning outcome in a given year may not be very reliable.

<table>
<thead>
<tr>
<th>Count</th>
<th>9</th>
<th>4</th>
<th>1</th>
<th>7</th>
<th>8</th>
</tr>
</thead>
<tbody>
<tr>
<td>2013-14</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Make Ethical Decisions</td>
<td>89%</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>88%</td>
</tr>
<tr>
<td>Use Econ Principles</td>
<td>89%</td>
<td>50%</td>
<td>100%</td>
<td>86%</td>
<td>75%</td>
</tr>
<tr>
<td>Use Data</td>
<td>89%</td>
<td>75%</td>
<td>100%</td>
<td>86%</td>
<td>75%</td>
</tr>
<tr>
<td>Communicate Bus Decisions</td>
<td>56%</td>
<td>75%</td>
<td>100%</td>
<td>57%</td>
<td>63%</td>
</tr>
<tr>
<td>Solve Tech Probs</td>
<td>56%</td>
<td>75%</td>
<td>100%</td>
<td>86%</td>
<td>75%</td>
</tr>
<tr>
<td>Apply Eng Principles</td>
<td>33%</td>
<td>100%</td>
<td>100%</td>
<td>29%</td>
<td>63%</td>
</tr>
<tr>
<td>Eval Alt Solutions</td>
<td>44%</td>
<td>75%</td>
<td>0%</td>
<td>86%</td>
<td>75%</td>
</tr>
<tr>
<td>Understand Animal Nut/Gen</td>
<td>67%</td>
<td>75%</td>
<td>0%</td>
<td>71%</td>
<td>75%</td>
</tr>
<tr>
<td>Care Animals</td>
<td>67%</td>
<td>75%</td>
<td>100%</td>
<td>86%</td>
<td>88%</td>
</tr>
<tr>
<td>Manage Animal Enterprises</td>
<td>33%</td>
<td>100%</td>
<td>0%</td>
<td>71%</td>
<td>88%</td>
</tr>
<tr>
<td>Know Crops</td>
<td>78%</td>
<td>75%</td>
<td>100%</td>
<td>71%</td>
<td>88%</td>
</tr>
<tr>
<td>Understand Soils</td>
<td>67%</td>
<td>75%</td>
<td>0%</td>
<td>71%</td>
<td>63%</td>
</tr>
<tr>
<td>Communicate Ag Environment Impact</td>
<td>67%</td>
<td>25%</td>
<td>0%</td>
<td>71%</td>
<td>75%</td>
</tr>
<tr>
<td>Communicate Effectively</td>
<td>67%</td>
<td>50%</td>
<td>0%</td>
<td>86%</td>
<td>100%</td>
</tr>
<tr>
<td>Support Opinion</td>
<td>78%</td>
<td>50%</td>
<td>0%</td>
<td>86%</td>
<td>88%</td>
</tr>
<tr>
<td>Understand Food Processing</td>
<td>22%</td>
<td>75%</td>
<td>100%</td>
<td>86%</td>
<td>75%</td>
</tr>
<tr>
<td>Understand Food Safety</td>
<td>67%</td>
<td>75%</td>
<td>100%</td>
<td>86%</td>
<td>75%</td>
</tr>
</tbody>
</table>

Qualitative Results. In addition to the quantitative feedback from graduating seniors regarding the degree to which they feel the program helped them master the student learning outcomes, they also provided feedback about the program through four open-ended questions. The complete, categorized list of responses is included in Appendix D.

When asked why they chose Agricultural Studies as their major:

- nearly two-thirds (62%) said they were attracted to the breadth of the program.
- 21% chose it because they knew they wanted to do something in agriculture but were undecided about a subject-matter discipline.
- 10% were avoiding particular requirements in other majors.
- 7% had miscellaneous reasons for selecting the major.

When asked what they think are the strengths of the Ag Studies program:

- 18 were attracted to the variety of skills/knowledge they gained in the major
• 5 liked the flexibility and ability to partially customize the major to meet their needs
• 3 felt the degree opened up a wide array of career options
• 3 had miscellaneous strengths they noted (being exposed to all parts of ag, seeing how ag concepts in different disciplines fit together, getting a little bit of depth in many parts of ag).

When asked what they think are the weaknesses of the Ag Studies program:

• 8 felt that employers might prefer students with deeper expertise in a particular agricultural discipline
• 7 felt that being required to take classes in which they were not interested (both in the general education and in the ag studies program) was a weakness
• 4 felt disadvantaged when taking classes in a particular discipline and having to compete against the majors in that discipline
• 3 said that without the opportunity to complete a minor, the program would be less attractive
• 7 noted miscellaneous weaknesses (e.g. feeling the major doesn’t have such a strong reputation, confusion about requirements in the major, not having their own department which would facilitate finding a peer group, etc.)

When asked anything else to say about the Ag Studies program, of the 21 respondents:

• 10 made positive comments
• 3 said they had nothing to add
• 7 suggested that the program requirements be reviewed
• 1 had miscellaneous comments

Indirect Alumni Assessment Results. In September of 2014, the Department formed an alumni advisory board. At this time, we don’t have assessment results available to present and discuss.

Indirect External Stakeholder Assessment Results. The Department gathers indirect stakeholder assessment of our program from agricultural employers who attend the UW-River Falls Career Fair. The department modified the stakeholder feedback survey in 2014 to align with the Ag Studies student learning outcomes and UWRF’s preferred 6-point scale. The feedback form used to gather these data is available in Appendix E. These data are summarized in Figure 3 and Table 3.
A majority of external stakeholders said that it is important or very important for Ag Studies graduates to be able to: communicate business decisions, make ethical business decisions, use data to reach decisions, evaluate multiple solutions to a problem, construct arguments to support positions, use economic principles to make decisions, communicate the impact of crop production on the environment and understand crop characteristics and management. Most of the other student learning outcomes are going to be applicable to a subset of agricultural businesses. Therefore, it is not entirely surprising that fewer than half rated understanding soils, understanding animal nutrition and genetics, applying engineering principles, managing animal enterprises, caring for animals, and understanding food processing as important or very important competencies for Ag Studies graduates.

For reasons that are unclear, much higher proportions of industry representatives who attended the 2014 Career Fair, rated all of the Ag Studies program student learning outcomes as important or very important compared to those in 2015 – 2017. But, in general, the results are relatively consistent year to year. More than 90% of potential employers of Ag Studies graduates said that the ability to communicate business decisions, to understand ethical decision making and using data to make sound business decisions are important or very important competencies. Interestingly, many of the top-rated student learning outcomes focus more on “soft-skills” (communications, ethics, constructing arguments) rather than discipline-focused competencies.
Table 3: Percent External Stakeholders Rating Ag Studies Learning Outcome Important or Very Important, by Year, 2014-2017

<table>
<thead>
<tr>
<th>Year</th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Count</td>
<td>27</td>
<td>17</td>
<td>21</td>
<td>37</td>
</tr>
<tr>
<td>Communicate Bus Decisions</td>
<td>92%</td>
<td>94%</td>
<td>90%</td>
<td>95%</td>
</tr>
<tr>
<td>Ethical Decisions</td>
<td>93%</td>
<td>94%</td>
<td>90%</td>
<td>92%</td>
</tr>
<tr>
<td>Use Data</td>
<td>93%</td>
<td>76%</td>
<td>90%</td>
<td>92%</td>
</tr>
<tr>
<td>Eval Alt Solutions</td>
<td>96%</td>
<td>94%</td>
<td>81%</td>
<td>78%</td>
</tr>
<tr>
<td>Construct Argument</td>
<td>93%</td>
<td>75%</td>
<td>71%</td>
<td>86%</td>
</tr>
<tr>
<td>Solve Tech Probs</td>
<td>85%</td>
<td>82%</td>
<td>71%</td>
<td>76%</td>
</tr>
<tr>
<td>Econ Principles</td>
<td>78%</td>
<td>76%</td>
<td>76%</td>
<td>76%</td>
</tr>
<tr>
<td>Communicate Ag Environment Impact</td>
<td>74%</td>
<td>56%</td>
<td>48%</td>
<td>62%</td>
</tr>
<tr>
<td>Know Crops</td>
<td>67%</td>
<td>44%</td>
<td>48%</td>
<td>59%</td>
</tr>
<tr>
<td>Understanding Soils</td>
<td>59%</td>
<td>44%</td>
<td>43%</td>
<td>46%</td>
</tr>
<tr>
<td>Understand Animal Nut/Gen</td>
<td>59%</td>
<td>38%</td>
<td>33%</td>
<td>46%</td>
</tr>
<tr>
<td>Apply Eng Principles</td>
<td>56%</td>
<td>29%</td>
<td>48%</td>
<td>30%</td>
</tr>
<tr>
<td>Manage Animal Enterprise</td>
<td>52%</td>
<td>31%</td>
<td>33%</td>
<td>38%</td>
</tr>
<tr>
<td>Care Animals</td>
<td>56%</td>
<td>25%</td>
<td>38%</td>
<td>35%</td>
</tr>
<tr>
<td>Understanding Food Processing</td>
<td>54%</td>
<td>25%</td>
<td>29%</td>
<td>35%</td>
</tr>
</tbody>
</table>

**Significance of Findings.** While there are insufficient direct measures of Ag Studies majors’ mastery of the program’s student learning outcomes to arrive at hard conclusions, the few data points we have, raise a potential issue. The proportion of correct responses to the questions that attempt to measure the soft skills that external stakeholders appear to value most highly in graduates of the Ag Studies program was relatively low. The department will closely monitor these results going forward.

Both because of changes to the Agricultural Engineering/Agricultural Engineering Technology program and the feedback received from graduating seniors, the Ag Economics Department will be looking at the appropriate mix of engineering classes for the Ag Studies program.

Generally, however, the department feels the results indicate that the student learning outcomes identified for the Ag Studies major are both appropriate and are being attained by graduates of the program.

**Assessment Actions, Change Timeframes, Accountability and Review.** The Agricultural Economics Department expects to take the three assessment actions summarized in Table 4 (next page).

In addition to the changes made in agricultural engineering, the Animal Science Department has made substantial changes to the majors and minors in their department. The Ag Studies program
will have to be modified in response to these changes. Further, the current array of courses allowed to satisfy disciplinary requirements is fairly broad, which complicates the assessment of students’ performance relative to student learning outcomes. The Ag Economics Department will urge participating programs to narrow the set of courses included in the Ag Studies course requirements.

Once changes to the course requirement array are complete, the post-test will likely need to be modified.

<table>
<thead>
<tr>
<th>Table 4: Expected Changes to Ag Studies Assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Action</strong></td>
</tr>
<tr>
<td>1. Administer the direct learning assessment instrument to new program majors on Academic Day</td>
</tr>
<tr>
<td>2. Review/Modify program requirements with particular focus on ag engineering and animal science</td>
</tr>
<tr>
<td>3. Refine pre/post test</td>
</tr>
</tbody>
</table>

**Accessing Assessment Report Findings.** The Department of Ag Economics will place a link on the Ag Studies program webpage that will take interested readers to a copy of this report.
**Action Plans**

**Meeting Performance Expectations vs. Needs Improvement.** Based on direct and indirect assessment of our students, the Department is generally pleased with Ag Studies student’s performance across most student learning outcomes. Table 5 summarizes those student learning outcomes for which student performance is meeting our expectations and those areas in which we are seeking improvements.

The department would like to see improvements in Ag Studies majors’ performance with respect to soft skills. The direct assessment data collected to date are too sparse to be reliable. However, these results do suggest that the soft-skills that are highly valued by employers were not areas in which the few who have taken the post-test excelled.

A second general area in which the Department recognizes a need for improvement is in the agricultural engineering requirements in the major. This concern is based on both changes to the majors in that department and on written comments from graduating seniors.

**Actions the Department Will Take to Improve Performance.** There are six actions the Department expects to take to improve Ag Studies students’ performance:

1. Administer the direct assessment instrument to freshmen as a pr-test.
2. Fine-tune the pre-/post-test instrument to measure student performance with respect to the program’s student learning outcomes.
3. Adjust the Ag Studies program requirements in response to changes in Ag Engineering programs.
4. Adjust the Ag Studies program requirements in response to changes in the Animal Science major.
5. Encourage a more defined set of courses to be included as core Ag Studies major requirements.

<table>
<thead>
<tr>
<th>Table 5: Performance Assessments</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Meets Expectations</strong></td>
</tr>
<tr>
<td>Ethical Decisions</td>
</tr>
<tr>
<td>Econ Principles</td>
</tr>
<tr>
<td>Use Data</td>
</tr>
<tr>
<td>Communicate Bus Decisions</td>
</tr>
<tr>
<td>Solve Tech Probs</td>
</tr>
<tr>
<td>Apply Eng Principles</td>
</tr>
<tr>
<td>Eval Alt Solutions</td>
</tr>
<tr>
<td>Understand Animal Nut/Gen</td>
</tr>
<tr>
<td>Care Animals</td>
</tr>
<tr>
<td>Manage Animal Enterprises</td>
</tr>
<tr>
<td>Know Crops</td>
</tr>
<tr>
<td>Understanding Soils</td>
</tr>
<tr>
<td>Communicate Ag Environment Impact</td>
</tr>
<tr>
<td>Communicate Effectively</td>
</tr>
<tr>
<td>Support Opinion</td>
</tr>
<tr>
<td>Understanding Food Processing</td>
</tr>
<tr>
<td>Understanding Food Safety</td>
</tr>
</tbody>
</table>
6. Encourage Departments in CAFES to adopt assessment protocols to ensure courses offered by different instructors and/or in different modes are consistent in terms of covering student learning objectives.

**Maintain/Improve Consistency of Courses Regardless of Instructor/Delivery Mode.** As noted throughout this report, there are no classes with an Ag Studies designator. The program is, therefore, dependent upon departments across CAFES to address the issue of ensuring consistency of courses across time, mode of deliver, instructor, etc. One of the actions noted in the preceding section is that the Ag Economics Department will encourage all departments in CAFES to address this issue. Ag Economics, itself, now has included a final quiz or portion of the final exam that asks a series of assessment questions about the student learning outcomes for each course in our curriculum. This, we feel, is a means of assessing the extent to which courses offered by different instructors at different times or using different delivery methods are consistent.

**Actions to Ensure Out-of-Classroom Learning.** The department will use the supervisor assessment instrument that is supposed to be completed at the end of each Ag Studies student’s internship as a means of assessing this key out-of-classroom learning activity. The department tracks Ag Studies students participation in other co-curricular activities (learning communities, international experiences, club participation, and undergraduate research), but does not have a plan for assessing these activities.

**Actions Regarding Indirect Student Assessment.** The program feels that the indirect indicators of Ag Studies students’ performance with respect to the programs student learning outcomes is robust and doesn’t need to be changed at this time. We will continue to monitor the results of our senior exit feedback survey and amend the program as needed and appropriate.

**Actions Regarding Alumni Assessment.** The program feels that the indirect indicators of alumni’s assessment of the Ag Studies students’ learning outcomes is adequate and doesn’t need to be changed at this time. We will continue to monitor the input we receive the Department’s advisory committee and amend the program as needed and appropriate.

**Actions Regarding Indirect External Stakeholder Assessment.** The program feels that the indirect indicators of external stakeholders’ assessment of the Ag Studies students’ learning outcomes is robust and doesn’t need to be changed at this time. We will continue to monitor the input we receive from external stakeholders via the Career Fair survey and amend the program as needed and appropriate.

**Actions Regarding the Ag Studies Assessment Process.** Recent and pending retirements of the faculty who have had primary responsibility for the Ag Studies program assessment, will require actions by the Ag Economics Department. The Department chair will name an assessment coordinator for the Ag Studies program. The assessment coordinator will do or ensure that the following assessment activities are carried out:
• Maintain/Improve the pre-/post-test, our direct assessment of student learning objective attainment, and ensure that this test is administered during the last three weeks of fall and spring semesters.
• Maintain/Improve the senior exit/assessment survey, our indirect assessment of student learning objective attainment and feedback on the program’s strengths and weaknesses. The coordinator will ensure that this assessment is done during the last three weeks of fall and spring semesters.
• Maintain/Improve consistency of courses in the Ag Studies program by working with CAFES Departments to build and administer a robust assessment protocol. We hope that a database summarizing the results for courses in the program can be developed.
• Maintain/Improve the external stakeholder survey and ensure that it is administered prior to the fall UWRF Career Fair.
• Maintain/Improve feedback from alumni in the Department’s advisory committee by working with the department chair to include feedback about the Ag Studies program during advisory committee meetings.

**Action Plan Summary Table.** Table 6 on the following page details the specific actions, implementation time-frame, accountability assignments and review schedule for the agribusiness management assessment program.

<table>
<thead>
<tr>
<th>Action</th>
<th>Time-Frame</th>
<th>Accountable Party</th>
<th>Review Schedule</th>
</tr>
</thead>
<tbody>
<tr>
<td>Seek Alumni Input from Departmental Advisory Committee</td>
<td>2018-19</td>
<td>Assessment Coordinator and Ag Econ Dept Chair</td>
<td>January 2019</td>
</tr>
<tr>
<td>Review Program Requirements</td>
<td>2018-19</td>
<td>Assessment Coordinator and CAFES Department Chairs</td>
<td>May 2019</td>
</tr>
<tr>
<td>Course Consistency</td>
<td>2019-20</td>
<td>Assessment Coordinator and CAFES Department Chairs</td>
<td>May 2019</td>
</tr>
<tr>
<td>Review/Revise Student Learning Outcomes</td>
<td>2019-20</td>
<td>Assessment Coordinator and CAFES Department Chairs</td>
<td>January 2020</td>
</tr>
<tr>
<td>Review/Revise Pre-/Post-Test (<strong>Direct Measure</strong>)</td>
<td>2019-20</td>
<td>Assessment Coordinator and CAFES Department Chairs</td>
<td>May 2020</td>
</tr>
<tr>
<td>Review/Revise External Stakeholder Survey (<strong>Indirect Measure</strong>)</td>
<td>2019-20</td>
<td>Assessment Coordinator and CAFES Department Chairs</td>
<td>May 2020</td>
</tr>
<tr>
<td>Review/Revise Senior Exit Survey (<strong>Indirect Measure</strong>)</td>
<td>2020-21</td>
<td>Assessment Coordinator and CAFES Department Chairs</td>
<td>January 2021</td>
</tr>
</tbody>
</table>
Appendix A: Ag Studies Assessment Plan

Introduction

The major was originally implemented in the 1960s as the General Agriculture major and was an alternative to the then exclusive program in Agricultural Education. It was designed as an option for those students not interested in teaching. Since then, an array of other majors has also been added in the college, and while the major has continued, the name was changed in the early 1970s to Broad Area Agriculture and to Agricultural Studies in 2000.

For most of its existence, this interdisciplinary major was managed by the Dean’s Office with consultation from the department chairs. Student advising was done by the college deans and various faculty members in the college. The major was identified as serving three student populations: 1) pre-majors interested in agriculture but undecided about a major; 2) students preferring a more general and flexible agriculture curriculum; and 3) transfer students.

A major development in the program occurred in the mid-90s in connection with the Reach for the Future Strategic Plan. An additional science (chemistry or biology) requirement and courses in Agricultural Education and Food Science were added to the major. A requirement for more upper division courses was also added.

A second major development in the program was in response to the Program Review in 2000. The name was changed to Agricultural Studies. A new minor in Agricultural Studies was approved to give students not majoring in agriculture a means of receiving education in agriculture. The college decided to eliminate this minor in 2018 because no non-CAFES students had opted to pursue the minor. Another change from that Program Review was a requirement that all students in the major complete a minor from Agricultural Business, Agricultural Economics, Farm Management, Agricultural Engineering Technology, Dairy Science, Animal Science, Food Science, Agronomy, Conservation, Environmental Sciences, Geology, Horticulture, Hydrogeology, Land Use Planning, Outdoor Education, or Soil Science.

A third significant change in the program came in 2006 when a new academic home for the program was established in the Agricultural Economics department rather than the Dean’s Office.

The final major change occurred in response to the May 2010 Program Review. Student feedback solicited as a part of that process indicated that the breadth of the major is seen as a weakness. Comments referred to “lack of focus”, “too broad” and “isn’t really specialized”. Based on these concerns, the major was revamped in fall 2012. Three classes are now required in each of the major areas in CAFES (agricultural business, agricultural engineering technology, animal/dairy science, and plant/soil science) rather than the “cafeteria” approach that characterized the program prior to 2012. Depth of understanding in one field is developed by the requirement that students complete 15 additional credits in a discipline within CAFES. Depending on the selection of classes comprising these 15 credits, the student may complete a minor in that discipline.
**Mission:**
The mission of the Agricultural Studies program is to provide students with an understanding of the technical and social science factors that shape the food and fiber sector.

**Section 1: Learning Outcomes**

**Section 1a – Agricultural Studies’ Student Learning Outcomes**

Upon completion of their coursework, graduates of the Agricultural Studies program will be able to:

4. demonstrate an understanding of ethical decision-making
5. demonstrate competence in a broad array of agricultural disciplines
   - **Agricultural business competencies**
     - make decisions using economic principles
     - use data to make decisions
     - communicate business decisions effectively
   - **Agricultural engineering technology competencies**
     - identify, analyze and solve technical problems
     - apply engineering principles to agricultural systems
     - evaluate numerous solutions to open-ended problems
   - **Animal/Dairy science competencies**
     - understand animal nutrition and genetic principles
     - properly care for and handle animals
     - manage animal enterprises
   - **Crops/Horticulture/Soils competencies**
     - understand crop plant characteristics and management practices required in growing crops
     - understand soil formation and physical, chemical, and biological aspects of soils
     - communicate the impact of crop production practices on soil properties and the environment
   - **Agricultural Education competencies**
     - construct an argument supporting a specific position
   - **Food Science competencies**
     - Understand food processing issues
6. demonstrate competence in the specific agriculture or related discipline that was chosen as an emphasis area within the major
Section 1b – Measurability of Agricultural Studies’ Student Learning Outcomes

The means by which the Agricultural Studies Student Learning Outcomes are measured is described in detail in Section 3.

Section 1c – Agricultural Studies’ Learning Outcomes and UWRF Strategic Goals

UWRF has identified three Strategic Goals as a part of the current Strategic Plan:

1. Distinctive Academic Excellence

The Agricultural Studies program aligns well with the University’s strategic goals. As the second oldest program in CAFES, it draws on expertise across the College. The program’s flexibility enhances the efficiency of resource use within the College by attracting and retaining a group of students who might opt out of a university education if they did not have the opportunity to, broadly speaking, design their own major. The students thus retained, increase enrollment in classes across the college. Because the program provides for a significant level of customization, it enables this unique set of students to pursue their individual academic passions, creating an excellent academic experience for them. The Agricultural Studies program provides distinctive academic excellence by giving students in this program both the breadth of a traditional broad area studies program and a more in-depth understanding of a specific element of agriculture by requiring a 15-credit area of concentration.

2. Global Education and Engagement

Compared to the U.S. economy as a whole, agriculture is twice as dependent on international markets; the U.S. exports more than 20% of our agricultural output. CAFES has recently expanded our international agriculture offerings (e.g. agriculturally focused trips to Argentina, Holland, Ireland, and India) and the flexibility offered by the Agricultural Studies program enables students with international interests to take advantage of these new opportunities.

3. Innovation and Partnerships

CAFES in general is well-known for the extent and quality of its contacts with off-campus stakeholders. Through our extensive internship program and industry networking opportunities, Agricultural Studies majors have many opportunities to advance their professional and career opportunities with industry. Again, the program’s flexibility enables these students to use these opportunities to advance toward their degree.

In the current Strategic Plan, the campus annually selects a number of plan initiatives. Recent plan initiatives included the China Ag University and Dairy Plant Marketing, Argentina study tour, which have direct linkages to the competency listings in Section 1a.
Section 1d – Agricultural Studies’ Student Learning Outcomes and Meeting the Professional and Intellectual Needs of Graduates

The Department of Agricultural Economics regularly gets input from students (Senior Feedback Survey) and employers (Employer Survey) about the professional and intellectual needs of Ag Studies graduates. The department has responded to those comments by making changes to the program over time. For instance, early results from the Senior Feedback Survey indicated that students didn’t feel they were getting enough depth of understanding from the program. In response, the department restructured the major to include three courses from each of the four key agricultural disciplines: agricultural engineering (structures and equipment), agricultural economics (business), crops and soils (plants), and animal science (livestock). Further, the program is structured so that students can use their 15-credit emphasis to complete a minor in one of these four programs if they so desire.

Further, the department evolves the program in response to programmatic changes in other CAFES programs. For instance, in 2018-19 the department will be modifying the program in response to substantial changes to the animal science and agricultural engineering technology programs.

Section 1e – Agricultural Studies’ Student Learning Outcomes and External Stakeholder Needs

The Department of Agricultural Economics regularly collects feedback from external stakeholders, primarily employers of our graduates, on the degree to which they feel the program’s student learning outcomes meet their needs. More detail about these efforts is included in Sections 3 and 4.

Section 1f – Broad Learning Outcomes are Supported by Specific Content/Skill Learning Outcomes

The Ag Studies program, as noted is designed to expose students to four key disciplines in agriculture: agricultural engineering, agricultural economics, crops and soils, and animal science. As the pre-/post-test shows, students are expected to learn and retain key concepts and competencies from this exposure.
Section 2. Profile of Where Learning Outcomes Are Being Achieved

Sections 2a and 2b – Specific Courses Associated with Agricultural Studies’ Student Learning Outcomes coupled with a Course Map

Table 1 displays the Agricultural Studies curriculum array. This array identifies where the subject matter needed to achieve a learning objective is introduced (I), emphasized (E), or reinforced (R).

Table 1. Agricultural Studies Curriculum Array

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
<th>Ethical Decision Making</th>
<th>Breadth of Agricultural Competencies</th>
<th>Depth of Agricultural Competencies</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAFES Foundation courses</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ESM 105 or ANSC 115 or PLSC 120</td>
<td>3</td>
<td>I</td>
<td>I</td>
<td>I</td>
</tr>
<tr>
<td>AGEC 230</td>
<td>3</td>
<td>I</td>
<td>I</td>
<td>I</td>
</tr>
<tr>
<td>AGEN 150</td>
<td>3</td>
<td>I</td>
<td>I</td>
<td>I</td>
</tr>
<tr>
<td>PLSC 161</td>
<td>3</td>
<td>I</td>
<td>I</td>
<td>I</td>
</tr>
<tr>
<td>ANSC 111</td>
<td>3</td>
<td>I</td>
<td>I</td>
<td>I</td>
</tr>
<tr>
<td>SOIL 210</td>
<td>3</td>
<td>I</td>
<td>I</td>
<td>I</td>
</tr>
<tr>
<td>FDSC 110</td>
<td>3</td>
<td>I</td>
<td>I</td>
<td>I</td>
</tr>
<tr>
<td>Agricultural business competencies:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AGEC 305, 320, 345, 355, 360, 365, 405, 410, 440, 455</td>
<td>9</td>
<td>R</td>
<td>R</td>
<td>R</td>
</tr>
<tr>
<td>Agricultural education competencies:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AGED 230, 202</td>
<td>3</td>
<td>R</td>
<td>I</td>
<td>R</td>
</tr>
<tr>
<td>Agricultural engineering technology:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>competencies</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>GENG 235, AGEN 320, 325, 350, 363, 365</td>
<td>9</td>
<td>R</td>
<td>R</td>
<td>R</td>
</tr>
<tr>
<td>Animal/Dairy science competencies:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ANSC 231, 232, 257</td>
<td>9</td>
<td>R</td>
<td>R</td>
<td>R</td>
</tr>
<tr>
<td>Crops/Horticulture/Soils competencies:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CROP 263, 266, 267, 368, 468, HORT 169, 310, 327, 347, SOIL 311, 440</td>
<td>9-11</td>
<td>R</td>
<td>R</td>
<td>R</td>
</tr>
<tr>
<td>Food processing competencies:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AGEN 352, FDSC 202, 302 ANSC 238 or FDSC 238 ANSC 240 or FDSC 240</td>
<td>3</td>
<td>R</td>
<td>R</td>
<td>R</td>
</tr>
<tr>
<td>Emphasis area</td>
<td>15</td>
<td>E</td>
<td>R</td>
<td>E</td>
</tr>
</tbody>
</table>

An “I” indicates where learning outcomes are introduced. An “R” indicates where learning objectives are reinforced. An “E” indicates where learning objectives are emphasized.

Section 2c – The Agricultural Studies’ Program and Out of Classroom Experiences

The Agricultural studies program does not require an out-of-classroom experience. However, all students in this major are encouraged to seek out and participate in these activities, some of which are described below.
Internships: In a typical year, more than 100 CAFES students take an internship for credit through the CAFES Internship office. These internships are faculty supervised and designed to provide the student with an exceptional work and learning experience. Most internship experiences meet learning Outcomes 1 and 3. Internships fit into the program via the 15 credit Emphasis area. All students are assessed by the supervisor at the organization at which they work.

Student clubs & organizations: CAFES has a large number of student clubs and organizations and many Agricultural Studies majors participate as members and leaders. This experience helps meet all 3 learning outcomes. Since the 2014-2015 academic year, data has been collected from graduates (Graduating Senior Exit Survey) regarding this experience.

International: Agricultural Studies majors are encouraged via the advising process to consider various international experience programs including those noted earlier as well as Wisconsin in Scotland, Study Abroad. This experience helps meet all three learning outcomes. Since the 2014-2015 academic year, data has been collected from graduates (Graduating Senior Exit Survey) regarding learning this experience.

Undergraduate research: CAFES faculty are both active and successful as grant writers and Agricultural Studies majors are encouraged via the advising process to pursue undergraduate research opportunities with these faculty. Each department has an independent research type class at the 400 level that fits into the 15 credit Emphasis area of the major. This experience helps meet learning outcomes 1 and 3. Since the 2014-2015 academic year, data has been collected from graduates (Graduating Senior Exit Survey) regarding this experience.
Section 3. Venues for assessing Learning Outcomes

Post-tests, internship supervisor feedback, employer surveys, and graduating senior exit surveys will be used to assess the program.

Sections 3a – Venues, Tools, Artifacts, and Methods for Direct Assessment of Agricultural Studies Student Learning Outcomes

The agricultural economics department, with input from the other four departments in CAFES, developed an agricultural studies post-test during the fall of 2017. The 29-question test was administered for the first time at the end of fall semester, 2017 and again at the end of spring semester 2018. A copy of the post-test is included in Appendix A. Starting in the Fall of 2018 the same test will be administered to new majors on Academic Day as a pre-test.

Section 3b – Out of Classroom Learning Experiences and Agricultural Studies’ Student Learning Outcomes

Students in the Agricultural Studies Program are encouraged to take an internship for credit. The agricultural economics department will compile the evaluation these students receive from their internship supervisor. A copy of this feedback form is in Appendix A.

Section 3c – Indirect Assessment of Agricultural Studies’ Student Learning Outcomes

Graduating Senior Exit Survey: This survey, which the department has used for several years already, addresses both achievement of the learning outcomes and satisfaction with the major. A copy of this Qualtrics Survey is located in Appendix B.

Alumni feedback: The Agricultural Economics department meets with an Alumni advisory committee once during the school year. At a future meeting, these external stakeholders will review the Agricultural Studies student learning outcomes and, based on their experiences, suggest modifications to these outcomes. The department and the Agricultural Studies coordinating committee (CAFES department chairs) will use this feedback, in conjunction with the other direct and indirect indicators of the degree to which students are acquiring the desired competencies, to modify the learning objectives and the means by which students are expected to acquire them.

Employer Survey: This annual survey will target agriculture-oriented businesses attending the Career Fair and will address both achievement of the learning outcomes and satisfaction with UWRF Agriculture Studies majors. The department has used this survey to gather employer input on the Ag Studies program since fall 2014. A copy of this survey is included in Appendix B.

Assessment venues summary

Ethical Decision Making Learning Outcome: Directly measured using pre-/post-test results and indirectly measured using the graduating senior exit survey and the employer survey.
Breadth of Agricultural Competencies Learning Outcome: Directly measured using post-test results and indirectly measured using the graduating senior exit survey, and the employer survey.

Depth of Agricultural Competencies Learning Outcome: We do not currently have a direct measure of the depth of agricultural competency – the diverse nature of the 15-credit emphasis, where depth is gained, makes direct assessment difficult. Depth is indirectly measured using the graduating senior exit survey, the employer and internship supervisor surveys and the employer survey.
Section 4. Process for Assessment Improvement

The Agricultural Studies program, as noted in the introduction, has frequently been improved in response to direct and indirect assessment data, the most recent occurring fall 2012.

Section 4a – Not applicable

Section 4b – The Agricultural Studies’ Assessment Cycle

Table 2. Cycle of Assessment Timetable

<table>
<thead>
<tr>
<th>Assessment Component</th>
<th>Assessment Cycle</th>
</tr>
</thead>
<tbody>
<tr>
<td>Compilation Pre-/Post-Test results</td>
<td>Annually in December and May</td>
</tr>
<tr>
<td>Graduating Senior Exit Interview</td>
<td>Annually in December and May</td>
</tr>
<tr>
<td>Alumni feedback</td>
<td>When advisory council meetings held</td>
</tr>
<tr>
<td>Employer Survey</td>
<td>Annually in September - October</td>
</tr>
<tr>
<td>Internship Supervisor Feedback</td>
<td>Annually August-September</td>
</tr>
<tr>
<td>Discussion of Assessment Results</td>
<td>Biannually at the Department of Agricultural Economics retreating or at weekly department meetings and with the Agricultural Studies coordinating committee (CAFES department chairs)</td>
</tr>
<tr>
<td>Department and Agricultural Studies coordinating committee (CAFES department chairs) Consensus Concerning Changes As a Result of the Assessment Results</td>
<td>Biannually at the Department of Agricultural Economics retreat or at weekly department meetings</td>
</tr>
</tbody>
</table>

Section 4c – Comparability of and Assessment of Learning in Different Modes of Delivery, Locations, and Duration of Courses

The Ag Studies program offers no courses of its own. We, therefore, defer to the departments across CAFES that offer the courses that Ag Studies majors take to ensure classes taught by different instructors and/or by different means are comparable.

Section 4d - Ag Studies Assessment Process Accountability

The results of the compilation of pre-/post-test, the graduating senior feedback survey, the employer and internship supervisor surveys and alumni feedback will be collected and analyzed by the assessment coordinator and the department chair regarding the relevance and importance of student learning outcomes. The assessment coordinator will organize the information, make
preliminary evaluations and interpretations, and present the data and preliminary results to the department at the biannual department retreats (May and January of each year) and/or a weekly departmental meeting. The department will provide further input on the evaluation, and interpretation, and make recommendations to improve the program. Changes, if any, in curriculum and content will be made based on departmental and Agricultural Studies coordinating committee (CAFES department chairs) consensus. This was the general process followed for the most recent significant improvement to the program, which commenced in fall 2012 and is discussed in the Introduction to this assessment plan.

The alumni feedback results data will be collected and initially analyzed by the assessment coordinator and the department chair. These preliminary results will then be presented to the department at the biannual department retreats and/or a weekly department meeting and to the Agricultural Studies coordinating committee (CAFES department chairs). Different interpretations of the data and potential improvements are suggested and discussed by department faculty.

Program changes, if any, are proposed based on departmental and Agricultural Studies coordinating committee (CAFES department chairs) consensus. Because the Agricultural Studies program draws on resources from across the college, changes to the program have to be endorsed by the other departments in CAFES.

Section 4e – Who will maintain data & document assessment based actions

The Chair of the Agricultural Economics department will determine who will be responsible for collecting the Exit, Employer, Internship supervisor, and Post-test results. That person will be responsible for maintaining and documenting assessment-based actions.

Section 4f – Implementation of Ag Studies Revisions Based on Assessment Results

The Action Plan for implementing assessment based changes is presented in Table 4 below. Minor revisions will be implemented the following school year. More substantial revisions needing approval of college and/or university committees will be implemented as soon as possible, preferably the school year after the proposed revisions have been approved by the committees noted above. The department chair is responsible for consulting with other CAFES departments about proposed changes to the Agricultural Studies curriculum and seeking approval of such changes by the appropriate college and university committees.
Table 3. Action Plan

<table>
<thead>
<tr>
<th>Action</th>
<th>When</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Department chair along with representatives of the Agricultural</td>
<td>January/May of each year</td>
</tr>
<tr>
<td>Studies program coordinating committee review assessment results.</td>
<td></td>
</tr>
<tr>
<td>2. Determination of need for changes.</td>
<td>January/May of each year</td>
</tr>
<tr>
<td>3. Communicate recommended changes to Agricultural Studies coordinating</td>
<td>August – September of each year</td>
</tr>
<tr>
<td>committee.</td>
<td></td>
</tr>
<tr>
<td>4. Seek approval for changes from affected CAFES departments.</td>
<td>September – February of each year</td>
</tr>
<tr>
<td>5. Seek approval for changes from affected CAFES and University</td>
<td>February – April of each year</td>
</tr>
<tr>
<td>committees.</td>
<td></td>
</tr>
</tbody>
</table>

Section 4g – Processes/Procedures for Communicating Ag Studies Assessment Results and Actions

Assessment results will be saved to the department’s Agricultural Studies Assessment folder on the T-drive. All members of the department have access to this folder and the data therein. A one-page summary of the Agricultural Studies assessment will be posted in the Agricultural Economics Departmental bulletin board. The Assessment plan will be available via the UWRF website in the A to Z Index under Assessment. Assessment results will be presented via the UWRF website in the Agricultural Economics department area.
Appendix B: Ag Studies Post Test

Q1 The Agricultural Studies degree requires you to take courses across a broad array of agricultural disciplines. This test will not affect your graduation, grade point average, or anything else in your academic record. It is just to provide us a means of determining the degree to which the program is achieving the learning outcomes the College has defined for the major.

Q2 Ethical business practices are important in market economies because they:

reduce “transactions costs” between buyers and sellers (1)
allow firms to take advantage of tax incentives (0)
ensure shareholders receive a return on their investment (0)
create additional domestic demand for agricultural products (0)

Q3 Ethical business practices are important to a firm for all of the following reasons except:

they provide a short-term tactical advantage over the competition (1)
the firm is better positioned to attract and retain higher quality employees (0)
it will have lower legal expenses (0)
decision-making within the firm is smoother/more efficient (0)

Q4 Which of the following is a more important challenge to agribusiness managers compared to managers in other sectors:

Elastic demand for their products (0)
Oligopolistic firms dominate many parts of supply chain (0)
Dependence on biology introduces a number of difficult to manage exogenous factors (1)
Intense global market competition (0)

Q5 Price risk is a bigger management issue in agriculture than in most other sectors because:

Both demand and supply tend to be elastic (0)
Both demand and supply tend to be inelastic (1)
Demand is elastic, while supply is inelastic (0)
Demand is inelastic, while supply is elastic (0)

Q6 A commonly used indicator of firm’s solvency is:

The current ratio. (0)
Gross margin. (0)
Asset turnover ratio. (0)
Debt to equity ratio. (1)
Q7 Suppose you had data on the average corn yields of the roughly 400 farmers with which your business works and you see that most of your farmers had yields that cluster around 200 bushels per acre with a few under 150 bushels per acre, but quite a few with yields exceeding 250 bushels per acre. Which of the following would probably be the best number to calculate and present to your boss who has asked what a representative yield is for your farmers?

- The average or mean bushels per acre (0)
- The mode of bushels per acre (0)
- The range of bushels per acre (0)
- The median bushels per acre (1)

Q8 Suppose you have 8 agronomists working with the 400 farmers with which your business works and each handles about 50 farms. If you wanted to see if there was a relationship between the average yields of farmers and the agronomist with which they work, what sort of graph would probably be the best option?

- A line graph (0)
- A bar graph (1)
- A pie chart (0)
- A surface or radar chart (0)

Q9 Conflict resolutions communication requires the sender to do all of the following except:

- Put tendency to judge on hold (0)
- Use “I” messages (1)
- Be a reflective & active listener (0)
- Suggest & advise the receiver (0)

Q10 An effective debate would include all the following except:

- Concrete data supporting your position (0)
- Your personal feelings and beliefs about your position (1)
- Relevant facts supporting your position (0)
- A concise opening and closing statement indicating your position (0)
Q11 If the unit electrical cost is $0.10/kW-h, what is the total monthly electrical cost for a swine barn that uses:
- Eight 100-watt lightbulbs operating 240 hours/month
- One 300-watt security light operating 360 hours/month
- One 2.0 kW heater operating 180 hours/month
- One 1.0 kW circulation pump operating 100 hours/month

$43.50 (0)
$59.20 (0)
$76.00 (1)
$92.00 (0)

Q12 Hydraulic fluid flows through a hose at 42. in³/s. What is this flowrate in gpm? Hint: 231 in³ = 1.0 US Gallon

47. gpm (0)
160 gpm (0)
11. gpm (1)
0.0030 gpm (0)

Q13 The infiltration capacity of a certain soil group is 2.7 in/hr. During a rainfall event with a constant intensity of 3.2 in/hr, which of the following is most likely to occur?

There will be run-off (0)
The rainfall will be totally absorbed into the soil (0)
There will be runoff and/or ponding (1)
All the water will run off due to the high intensity, and cause severe erosion (0)

Q14 Benchmark 1 has an elevation of 126.22 ft and Benchmark 2 has an elevation of 87.66 ft. The horizontal distance between the two locations is 700.00 ft. What is the average slope between these two points?

-5.5% (1)
0.055% (0)
-0.306% (0)
30.6% (0)

Q15 A sample of grain was taken from the field and weighed 204.8g. After drying it weighed 171.3g. What is the wet basis moisture content of this grain sample?

19.5% (0)
83.6% (0)
16.4% (1)
80.5% (0)
Q16 Which animals, as classified by digestive tract, have a more complex stomach and are able to utilize lower quality forages and roughages?

Hindgut fermenters (0)
Monogastrics (0)
Ruminants (1)
Bigastrics (0)

Q17 Animal breeding refers to the applications of genetics. Which of the following is a positive example of breeding animals?

The Jersey cow has higher butter fat. (0)
The Paint horse has improved feet and leg conformation. (0)
The Hampshire wether has a higher ADG and reaches market weight faster. (0)
They are all positive examples of animal breeding. (1)

Q18 What is the study and application of behavior in domestic animals?

Meat science (0)
Genetics (0)
Physiology (0)
Applied Ethology (1)

Q19 What is the main purpose of raising livestock?

Economic profit (1)
Weed control (0)
Companionship (0)
Lawn ornaments (0)

Q20 As the World population continues to grow, what do we need to do in animal agriculture to make sure that there is enough food for people to eat?

Improve efficiencies (1)
Farm more land (0)
Feed more grain products (0)
Convert to a vegetarian society (0)

Q21 What is the main difference between food science and food technology?

Science is more applied than technology (0)
Science is the study of food whereas technology is the application (1)
Technology is more advanced than science (0)
There is no difference (0)
Q22 What term is defined as access to sufficient, safe, nutritious food to maintain a healthy and active lifestyle?

- Food availability (0)
- Food access (0)
- Food utilization (0)
- Food security (1)

Q23 What benefit do the following factors provide food production: acidity (pH), temperature, time, oxygen, moisture (Aw) and additives?

- Changes that are made to enhance palatability (0)
- Interrupt microbial growth to produce safer food (1)
- Allow microbes, especially bacteria, optimum conditions for maximum growth. (0)
- They do not matter and are not of concern (0)

Q24 What are the two most controllable factors in safe handling of food?

- Hand washing and hygiene (0)
- Cooking and cooling temperatures (0)
- Time and temperature (1)
- Handling and heating leftovers (0)

Q25 Which of the following is/are not benefits of heat preservation?

- Eliminate pathogens and eliminate/reduce spoilage organisms (0)
- Eliminate the need to refrigerate leftovers (1)
- Extend shelf-life of food (0)
- All are benefits of heat preservation (0)

Q26 Soil structure refers to the:

- amount of sand, silt, and clay (0)
- arrangement of soil particles into aggregates (1)
- total amount of mineral solids (0)
- density of the soil (0)

Q27 Soil horizons develop because of:

- additions of organic and mineral matter (0)
- translocations of organic and mineral matter (0)
- transformations of organic and mineral matter (0)
- all of the above (1)
Q28 Cation exchange is the:

- conversion of an element from an inorganic to organic form in the soil (0)
- mineralization of nutrients from organic matter (0)
- the exchange of a cation between the soil solution and the soil colloid (1)
- the replacement of an element in the structure of a clay mineral (0)

Q29 What would happen to a plant’s photosynthetic rate if atmospheric CO2 levels rise?

- it would increase (1)
- it would decrease (0)
- it would not change (0)
- we can’t tell with this information (0)

Q30 What are the products of aerobic respiration?

- lactic, acetic and propionic acid (0)
- energy, moisture and carbon dioxide (1)
- ribose (and/or deoxyribose) and high energy phosphate bonds (0)
- carbohydrates and O2 (0)

Q31 This completes the Ag Studies Post Test. When you click on the advance arrows (>>), your responses will be recorded and you’ll be re-directed to the CAFES website.

Thank you very much for completing this assessment exam. We believe it will help improve the Ag Studies program over time.
Appendix C: Ag Studies Senior Feedback Survey

Q1 When you started college, were you an Agricultural Studies major?
   Yes (1)               No (2)

Q2 What is your minor?
   Ag Econ/Ag Business/Farm Management (1)
   Ag Engineering (2)
   Agronomy/Crop Science (3)
   Animal Science (4)
   Conservation (5)
   Dairy Science (6)
   Earth Science (7)
   Environmental Science (8)
   Food Science (9)
   Geology (10)
   Horticulture (11)
   Land Use Planning (12)
   Soil Science (13)
   Other (14)

Q3 In which of the following have you participated while a student at UW-River Falls
   Internship (for credit) (1)
   Participated in student club(s)
      (if checked, please specify club(s) you've been involved in) (2) _____________
   Undergraduate research (3)
   International experience (4)
   Learning community (e.g. paired classes in which the students are largely the same) (5)
Q4 During most semesters while a student at UW-River Falls, did you:

- not have a paid job (1)
- worked 10 hours or less a week at a paid job (2)
- worked 11 - 20 hours per week at a paid job (3)
- worked 21 - 40 hours per week at a paid job (4)
- worked 40+ hours per week at a paid job (5)

Q5 During a typical semester while a student at UW-River Falls, did you:

- study 10 hours or less a week (1)
- study 11 - 20 hours a week (2)
- study 21 - 40 hours a week (3)
- study 40+ hours a week (4)
The Agricultural Studies program has three student learning outcomes for the major and each learning outcome has a number of sub-goals. Please indicate the extent to which you feel the Agricultural Studies program has enabled you to:

<table>
<thead>
<tr>
<th>Learning Outcome</th>
<th>Strongly agree (1)</th>
<th>Agree (2)</th>
<th>Somewhat Agree (3)</th>
<th>Somewhat Disagree (4)</th>
<th>Disagree (5)</th>
<th>Strongly Disagree (6)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Understanding ethical decision-making (1)</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>Develop your ability to make management decisions using economic principles (2)</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>Develop your ability to use data to make business decisions (3)</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>Communicate business decisions effectively (4)</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>Develop your ability to identify, analyze and solve technical/mechanical problems (5)</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>Develop your ability to apply engineering principles to agricultural systems (6)</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>Develop your ability to evaluate numerous solutions to open-ended problems (7)</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>Develop your ability to understand animal nutrition and genetic principles (8)</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>Develop your ability to understand proper care and handling of animals (9)</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>Develop basic management of animal enterprises (10)</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>Develop a basic knowledge of crop characteristics and management practices (11)</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>Q6. Continued</td>
<td>Strongly agree (1)</td>
<td>Agree (2)</td>
<td>Somewhat Agree (3)</td>
<td>Somewhat Disagree (4)</td>
<td>Disagree (5)</td>
<td>Strongly Disagree (6)</td>
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</tr>
<tr>
<td>Develop a basic understanding of soil formation and the physical, chemical and biological aspects of soils (12)</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>Develop your ability to communicate the impact of crop production practices on soil properties and the environment (13)</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>Develop your ability to communicate (orally and in writing) effectively (14)</td>
<td>O</td>
<td>O</td>
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<tr>
<td>Develop your ability to construct an argument supporting a specific position/opinion (15)</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
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<td>O</td>
</tr>
<tr>
<td>Develop a basic understanding of food processing issues (16)</td>
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<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>Develop a basic understanding of food safety issues (17)</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>Develop competency in the specific discipline chosen as your emphasis/minor (18)</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
</tbody>
</table>
Q7 What were the reasons you choose to do a major in Agricultural Studies?
________________________________________________________________
________________________________________________________________
________________________________________________________________

Q8 What do you think are the strengths of an Agricultural Studies major compared to other majors in CAFES?
________________________________________________________________

Q9 What do you think are the weaknesses of an Agricultural Studies major compared to other majors in CAFES?
________________________________________________________________

Page Break

Q10 How would you rate your academic advising during your program at UW-River Falls

   Excellent (1)
   Good (2)
   Fair (3)
   Poor (4)
   No Opinion (5)

Q11 Overall, how satisfied are you with your experience at UW-River Falls

   Very Satisfied (1)
   Satisfied (2)
   Dissatisfied (3)
   Very Dissatisfied (4)
   No Opinion (5)

Q12 Do you have anything else you'd like to say about the Agricultural Studies program or UW-River Falls?

Q13 Are you planning to attend graduate or professional school (e.g. Masters, PhD, Law School, etc.) after you finish at UWRF?

   Yes (1)  No (2)
Q14 With respect to the graduate or professional school you will be attending,
What is the name of the university? (1) ________________________________
What will your program of study be? (2) ________________________________
What degree are you seeking (e.g. masters? PhD?)? (3) ____________________
In what city is the university located? (4) ______________________________
In what state is the university located? (5) ______________________________

Q15 Do you have a job already lined up for after graduation?
Yes (1)  No (2)

Q16 Employer information
Name of employer? (1) ________________________________________________
Position title? (2) ________________________________________________
City? (3) ________________________________________________
State? (4) ________________________________________________

Q17 Will your job after graduation be:

<table>
<thead>
<tr>
<th></th>
<th>Yes (1)</th>
<th>No (2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Full-time (e.g. 40 hours/week) (1)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Related to your major (2)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Q18 Click If you know, please indicate what your post-graduation annual salary range will be.

<table>
<thead>
<tr>
<th>Salary Range</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Under $12,000</td>
<td>(2)</td>
</tr>
<tr>
<td>$12,001 - $14,000</td>
<td>(3)</td>
</tr>
<tr>
<td>$14,001 - $16,000</td>
<td>(4)</td>
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<td>(5)</td>
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<td>18,001 - $20,000</td>
<td>(6)</td>
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<td>$20,001 - $22,000</td>
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<td>(24)</td>
</tr>
<tr>
<td>More than $56,000</td>
<td>(25)</td>
</tr>
</tbody>
</table>

Thank you for providing your feedback on the agricultural studies program.
Appendix D: Graduating Seniors’ Open-Ended Question Responses

What were the reasons you choose to do a major in Agricultural Studies?

Of the 29 students who have answered this question since the fall of 2013:

- nearly two-thirds (62%) said they were attracted to the breadth of the program.
- 21% chose it because they knew they wanted to do something in agriculture but were undecided about a subject-matter discipline.
- 10% were avoiding particular requirements in other majors.
- 7% had miscellaneous reasons for selecting the major.

Breadth of Major (18 of 29 total comments)

- A program that was broad enough to make me able to market myself, but allowing me to pick and choose courses that I wanted to take
- ability to learn a little bit about everything and then be more in depth in one area
- Broad variety of classes
- I chose it because it was a broad area of study. I did not want to be confined to one main aspect of Ag. Ag studies let me choose my own path through college.
- I come from a farm and have been involved in many different agricultural fields, such as crop farming, dairy production and maintenance within a dairy farm, hog production, raising chickens in a big setting and many other farm tasks involved in the Ag field. On this note Agricultural Studies was the best fit for me to gain knowledge in many different Ag fields, so that I could be successful in each field and have knowledge within each one that could benefit my profits and to keep the businesses in line and organized. I grew up under the terms that the more you know the better off you are and that is why I chose strongly for the Ag studies major. I got a taste of each concept that is involved in agriculture today and that has helped me get the job that I am pursuing after graduation. I have learned a lot and that will be used to my advantage in the workforce.
- I could study Agriculture as a whole to obtain a well-rounded base knowledge of the industry. Also by having a broad base knowledge, I have more opportunities and options within the job market. Sometimes specializing in one area can limit opportunities outside of that specialty. I had job offers from the Agronomy, Animal Science and Renewable Energy industries.
- I liked the broad range of areas within agriculture you could study and not just focus on one and only one.
- I liked this particular major option because I knew I wanted to eventually farm one day. I was also interested in becoming a herdsman and I felt that this major allowed me to explore all aspects of agriculture while specializing in something of interest (Dairy Science). Two of my cousins had previously gone through the program and I have witnessed their success beyond schooling first hand. I believe that with the changing economy and the importance of agriculture, being able to adapt and know a little bit of every aspect of agriculture will allow me to qualify for numerous jobs in the industry.
- I really love all aspects of agriculture and this was the way to experience it all
- I wanted a diversified major that would give me a broad range of skills.
- I wanted to have a wide range of knowledge in the agricultural field, including sustainable agriculture. I thought this major would give me the chance to gain that knowledge.
- I wanted to stay more broad field and have more experiences in different categories of agriculture. Also due to transfer agreements, it was the best fit program for me.
• It allowed me to learn about many aspects of agriculture.
• It is a broad area program that was great for me since I was unsure of what I exactly wanted to do. This major gave me a wide idea of different areas in the Ag industry. I chose to have a crop minor to enhance my education. I feel this degree has best the perfect fit for me and has made my education as well as me become a more well-rounded person.
• To get knowledge from mostly every discipline in the college for going into a general agriculture business career.
• You get to touch in all areas and aspects of agriculture; it’s not specific to one subject being that agriculture is incorporated in our daily lives.
• I choose it because it covers everything I wanted to do and I wanted a vast knowledge in all things agriculture. I really enjoyed this major!
• I wanted to do soil and conservation but keep the agriculture and business aspects in my major with ag engineering classes and ag economics classes. Doing ag studies was the best way to do that because I could take those classes within the major, have my emphasis be in soil (elective credits) and have my minor be conservation. It helped keep my studies well rounded with the different perspectives on similar situations or issues.

Unsure of What Student Wanted in Ag (6 of 29 total comments)
• I didn't know exactly what to do specifically in Agriculture. I just knew I was interest in Agriculture and I was a conservation major so I just made it my minor.
• I knew that I wanted to study something in agriculture; however, I did not have a specific area that I wanted to focus on. The agricultural studies major fit perfectly.
• I wanted to do something in agriculture, but I wasn't sure what. So instead of just picking one emphasis, I decided to try them all out with Ag. Studies
• I was not sure what I wanted to do as a profession when I was going to graduate; but I knew I was interested in agriculture. Therefore, I decided to major in Ag Studies hoping eventually in the first couple of years of college I could figure out my possible career options. Instead, I was passed among three different advisers during the first three years of college.
• I wasn't exactly sure what I wanted to do. But I knew it involved the ag industry. This major gave me the opportunity to learn about everything.
• When I started college, I was unsure on a major, so I picked this as a filler. I ended up liking how I got a few classes in each department, so I stuck with it.

Concerns about Requirements in Other Majors (3 out of 29 Total Comments)
• Because of the required classes of other majors, I felt that I didn't have many choices of classes with those specific majors. Ag Studies is general and you bounce around within different departments giving yourself the chance to take different classes
• Did not want to take all the classes required for a crops major
• I no longer wanted to teach so I changed my major from Agricultural Education to Agricultural Studies

Miscellaneous (2 out of 29 Total Comments)
• I grew up around agriculture, so I wanted to learn more about my community. I am very passionate about animals, which is why I decided on an Animal Science minor. I believe agriculture is what holds the world together, and I wanted to learn about these practices to keep the world productive.
• I really liked how simple it is. This isn’t a bad reason, I personally have a hard time with school overall and struggle with numbers and have extremely bad test anxiety. I wanted to do animal science but realistically knew that I wouldn’t be able to handle chemistry and the harder classes like Animal Physiology, Organic Chemistry, reproductive physiology. I chose Ag Studies because I liked the diversity of it. I think that Ag Engineering really needs to be re looked at because ALL of those classes are difficult and that it can be depressing taking those classes because only a certain amount of students understand the material.

**What do you think are the strengths of an Agricultural Studies major compared to other majors in CAFES?**

Of the 29 students who answered this question:

• 18 were attracted to the variety of skills/knowledge they gained in the major
• 5 liked the flexibility and ability to partially customize the major to meet their needs
• 3 felt the degree opened up a wide array of career options
• 3 had miscellaneous strengths they noted (being exposed to all parts of ag, seeing how ag concepts in different disciplines fit together, getting a little bit of depth in many parts of ag).

**Variety of Skills/Knowledge Gained (18 of 29 total comments)**

• A variety of skills, well rounded knowledge, openness to other sectors of agriculture
• Ability to take a wide variety of classes.
• Allowing students to learn a variety of information from multiple aspects of agriculture. Ag Studies allows one to learn more than one main topic, giving a wide variety of job possibilities.
• Broad based major that covers a lot of topics, that makes a more well-rounded graduate hopefully.
• Broadens your understanding, awareness, and knowledge in many different areas of study.
• Can take a wide variety of courses. Flexibility in scheduling and class selection. Can choose a specific emphasis to focus on, but also have the ability to focus on another area, as well. Fairly easy to complete the requirements for the major. You get to study in all the different ag departments.
• I think that the breadth of the major is what made it a valuable major for my circumstances and has helped me learn more on topics I didn't know, but needed to know and learn. The diversity of the classes, professors and people involved in it has also helped me to get different views and ideas on certain topics in the Ag industry. Learning many different portions of the Ag industry is the biggest strength and is what made it worth it.
• It is broad. One can gain experience in a variety of areas within the Agricultural Sciences. The major can cause you to stumble upon an area of interest you didn't know about. It is a nice major if one isn't sure exactly the type of career path for their future. Ag Studies is a solid base to stand on.
• More class options and variety of things to learn
• The broad field. Each semester you could be taking something completely different.
• We learned a little bit of everything and in depth as well. We are required to take at least 2 upper class levels in each of the different agricultural degrees.
• Well-rounded in all aspects agriculture topics and I feel like that helps prepare us better for our classes
• You experience all areas of agriculture and some can be challenging and some not. You also find out what you are really passionate about within agriculture.
• You gain a wide variety of knowledge and can add an emphasis or minor if necessary.
• You get a wide range of classes. That other majors may not even look at.
• You get to experience so many different classes and really get to see all sides of the agricultural industry.
• You get to learn a little bit of everything, which I believe makes you a well-rounded, systems-thinking individual.
• The general understanding of Ag from all angles of the industry.

Flexibility/Choice/Customization of Major (5 of 29 total comments)

• Allows for more choices and doesn't pigeon hole you into classes that you don't deem necessary.
• Flexibility in direction of studies and ability to obtain multiple minors if desired
• The ability to choose classes based on my interests. I could choose from a variety of classes in each category that interested me the most. It made my education experience more enjoyable.
• The fact, that we can pick and choose. We can direct our future the way we want to. Our path is set, but not set in stone.
• The options to personalize your curriculum to fit what sparks your interest and exploring new ag industries.

Employment Options (3 of 29 total comments)

• Diversity of courses allows students to push themselves on topics that don't necessarily come easy to them. Career options after school increase because students should become familiar with all aspects of agriculture (economics, animals, engineering, crops, soils, etc.)
• It makes you more employable in several different areas versus being narrow focused. Personally, I think that's the best benefit.
• Very valuable for people wanting to know a lot about a lot of different areas in agriculture. Makes people more employable. Very good for young farmers who are going to go back to the farm.

Miscellaneous (3 of 29 total comments)

• More in depth (by a class or two) in every department to have a better understanding than only doing intro for the foundation credits.
• You get an idea of what most of the areas of studies are like at UWRF. If you are unsure of what you want to do this gives you the opportunity in a little bit of everything. It can help you chose a minor by taking different classes that you will then see where your interest is.
• You get to see how agricultural concepts are related by taking classes and approaching concepts from the views of different departments. For example, you can learn about crop production, the economics of crop production, the engineering behind crop production, how the crops are used for animals, and how they may be used in the food industry.
What do you think are the weaknesses of an Agricultural Studies major compared to other majors in CAFES?

The 29 comments regarding the Ag Studies program’s weaknesses were widely distributed:

- 8 felt that employers might prefer students with deeper expertise in a particular agricultural discipline
- 7 felt that being required to take classes in which they were not interested (both in the general education and in the ag studies program) was a weakness
- 4 felt disadvantaged when taking classes in a particular discipline and having to compete against the majors in that discipline
- 3 said that without the opportunity to complete a minor, the program would be less attractive
- 7 noted miscellaneous weaknesses (e.g. feeling the major doesn’t have such a strong reputation, confusion about requirements in the major, not having their own department which would facilitate finding a peer group, etc.)

Employers want more specialization (8 of 29 total comments)

- A weakness may be how it is viewed by employers. Employers seem to want an undergraduate student who focuses on one area of agriculture so that they are an “expert” in their field. However, for someone who wants to be an entrepreneur or self-employed, this major is a perfect fit.
- Employers look for a more specific major.
- It may be looked upon less favorably compared to specific majors.
- Might be a negative to say ag studies if applying for an engineering job even if you take a lot of engineering classes. The general nature of the major might become a negative when applying to a specific job.
- Not really sure what I’m going to do once I graduate. Not many jobs want an agricultural studies major. Usually want someone with a specific degree.
- Not specific enough
- Some categories and classes can be a little too broad. The major doesn't seem as credited as other majors.
- You don't get too involved in one subject that you may like more than the others.

Taking classes outside of area of interest (8 of 29 total comments)

- A weakness could be the types of classes needed to graduate. I liked that we were required to take three classes outside of the introduction classes, but I didn't like that we needed three engineering classes and only one food science/processing class. I think that should depend on the minor. Other majors also are set to a specific topic, so someone might have a better chance at getting a job in a specific field because of the excessive knowledge in that particular area.
- Forcing students to take classes that they have a disinterest in
- Having to deal with classes you may not be comfortable with. My engineering classes were hard. And I would have much more enjoyed a challenging class in animals instead of engines
- If you don't enjoy a certain area of classes or agriculture, those classes will be very difficult to complete and learn from.
• Makes you take some classes that don't pertain to what you want to learn.
• Maybe there could be more ability to replace some requirements with others, for example instead of taking an ag. education class one could have the ability to take an extra class from a different discipline in its place.
• Not really having focus. Having to take classes that really didn't pertain to things one was interested nor challenged a student's ability.

Competing with majors in some classes (4 of 29 total comments)

• Not being as advanced in some fields of the Ag industry has made it harder, such as I haven't been involved in many of the engineering classes and to jump into some of the classes that are required to take was a struggle because I haven't been through those other classes in the Ag engineering major, but it also made me work hard to understand those topics. I just didn't have the experience, so they were harder topics. This goes along with some of the other portions in the Ag studies major, but mostly the engineering side of the Ag studies major. The professors don't take it into consideration that I haven't taken the other engineering classes, so they don't teach it as well, because it is more of an expected knowledge that most of the kids have been through because they have been through those other engineering classes.
• Taking higher-level classes without the appropriate background knowledge can make them more difficult, as Ag Studies majors don't need to take all the same lower level classes as other majors.
• That we are thrown right in classes with students who that specific class could be in their major. So then, those students might understand the material better. For example, I don’t understand anything in Ag Engineering classes (I NEVER skip class) but I can tell the students who have that as a major understand it in a way where it’s natural for them.
• They make you do math like calculus and statistics in lots of the classes but they only make you college algebra so they kind of set you up for failure. The same with some of the other classes the teachers are always saying that you should know this stuff because you are going to be say a agronomist but I have only taken 3 plant classes how can I compare to the kids that their major is agronomy and the same with the engineering classes not so much with the animal science and food science and ag econ but lots of other students of outside majors take those classes

The option for a minor is important (3 of 29 total comments)

• Not feeling very skilled in one area but I love the minor requirement. It helps fill that void
• One big weakness I feel is that because you get a general knowledge of multiple areas of study you do not fully excel in one area. That is why I feel it is extremely important to get a minor so you will have that topic that you have received more knowledge in.
• Taking classes from several departments doesn’t allow for much depth in any department. This is alleviated, some, if a minor is picked.

Miscellaneous (7 of 29 total comments)

• I was very pleased with it!
• It has a bad reputation of being a slacker major.
• It was never made aware to me that a minor may have been a requirement. I was told I did not have to have a minor when I switched from Ag Ed to Ag Studies.
Most ag econ professors (who run ag studies) don't understand other classes and how to personalize the major. I changed my academic adviser to Dr. Graham because he understood it all and was able to help me in the way I needed with being a transfer student. It can be harder to follow along in some classes because of potential class order differences or not having to take a specific class that helps when understanding an upper level class.

That the major is kind of shown to be the major for students that are going to go back and work on their farm. It should be a major that needs more upper level classes in each part of agriculture, just lower level classes in each doesn't do too much to improve the graduate.

The name, it should be changed to Broad Area Agricultural.

You don't have your own "department." Majors like Ag Ed seem like they have a community, but it’s hard to find a common peer group in Ag Studies.

Do you have anything else you'd like to say about the Agricultural Studies program or UW-River Falls?

A majority of the 21 seniors who responded to this question either had something positive to say or said they had nothing to add. Six students suggested various types of program reviews.

Positive comments (10 of 21 total comments)

- All the faculty I interacted with were very concerned with my success. They made sure I was doing well.
- I believe it is a good option for people that have a variety of interests.
- I enjoyed it and will promote it
- I have enjoyed my times here, the good and bad. It has helped me become a better person and able to help out in this world.
- I have overall enjoyed my studies here at UWRF and how I could modify my major to my liking - my adviser was helpful and supportive. I, however, do see a difference in my last semester compared to the following semesters. Some of the professors have seemed to lack care to what they are teaching and no longer put the effort in. I'm not sure if the budget cuts have played a role in this.
- I think it is an awesome program and will recommend to possible future students that it is a great program in hopes that they will have as satisfied and accomplished feeling that I do this close to graduation.
- If you are someone like me, where they have their hands in a lot of different fields within the Ag industry, then Ag studies is the way to go. Or, even if you are uncertain about what you want to pursue, but know for certain you want to be in Ag, then Ag studies is the way to go. It opened up many different ideas and opinions on how to do things on the farm and in the different areas of the Ag that I am involved in. I am very satisfied with the major and what I have learned.
- It’s a great program if you get a good adviser who can help personalize what you need and guide you along the way. It is difficult to "fit in" at times in clubs because you don't truly belong to one specific major- you are a giant mixture. I do love the well-rounded perspectives you get within the major by taking ag econ, ag engineering, food sci, and crops/soils. It helps with critical thinking skills and real-world problem solving.
- Overall, a great program that prepares students for the agricultural world.
- Overall very satisfied with my choice to be an ag studies major
Review the program (7 of 21 total comments)

- I just would like to see Ag Economics and Ag Engineering reevaluated to help make it easier. I LOVE this school. I do want professors to understand that we are students here to learn and that if we ask ANY kind of question it should be treated like it’s the best question asked. NO question should ever be treated like it’s stupid no matter how simple/common sense it may sound.
- I like the idea of the major but it’s only as good as the amount of work that you put into it though. I should have taken college more seriously and actually studied. A random thought I just had is I wish a had a better working knowledge of using excel and maybe even a class to learn it better.
- I love the college and the town. However, I wish more classes would prepare us for future careers. We need less lecture - test base classes and more hands on, problem solving, real life application taught within the college experience.
- I wished you could have geared it more towards your interests. Why 3 engineering classes but not 3 food science classes or not 3 agriculture education classes. They should also have better example plans to look at when first coming in because I had to take classes I didn't need because that was what the plan online says. Also I wish they would tell you when certain classes are running because I couldn't take certain classes I wanted to because they only were offered every other year so I got stuck with ones I didn't want to take just to graduate on time And I feel like I suffered with that. Also I don't like that the DARs didn't update if the program changes because that happened to me and I didn't get to have a food science Minor because I was a class short but my DAR didn't tell me and when I found out it was too late. Also, why don't they have the humanities and fine arts classes geared for the agriculture students? Art and music history didn't help me at all with any of my classes and I doubt it will help me in the future. But, maybe an environmental science reading class or an agriculture media class or agriculture literature class or agriculture history class or something like that where it's actually going to benefit you instead of you wasting your time and money. Putting more of a focus on sustainable agriculture might be a consideration.
- There should be more flexibility with classes; the same classes are always at the same time every semester. Also give the students a wider range of classes to take within the different disciplines
- When I switched from Ag Ed to Ag Studies, I was told that I did not have to have a minor. If that is the case, that should be listed on the website for future students.

Nothing more to add (3 of 21 total comments)

Miscellaneous (1 of 21 total comments)

- Keep it! Help find jobs for students in this field because hard to pinpoint what kind of jobs you are qualified to do.
### Appendix E: Industry Feedback on Ag Studies Student Learning Outcomes

**Q1 Please indicate how important you think the following skills are for a graduate with a degree in broad area agriculture/agricultural studies?:**

<table>
<thead>
<tr>
<th>Skill Model</th>
<th>Very Important</th>
<th>Important</th>
<th>Somewhat Important</th>
<th>Not Important</th>
<th>Don't Know/No Opinion</th>
</tr>
</thead>
<tbody>
<tr>
<td>An understanding of ethical decision-making</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>An ability to make decisions using economic principles</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Able to use data to make decisions</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
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<tr>
<td>Able to communicate business decisions effectively</td>
<td>○</td>
<td>○</td>
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<td>○</td>
<td>○</td>
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<tr>
<td>Can identify/analyze/solve technical problems</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
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<tr>
<td>Can apply engineering principles to ag systems</td>
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<td>○</td>
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<tr>
<td>Can evaluate multiple solutions to a problem</td>
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<td>○</td>
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<tr>
<td>Understands genetic and nutrition principles</td>
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<td>○</td>
<td>○</td>
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<tr>
<td>Can properly care for/handle animals</td>
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<tr>
<td>Can manage animal enterprises</td>
<td>○</td>
<td>○</td>
<td>○</td>
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<tr>
<td>Understands crop plant characteristics and management practices</td>
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<tr>
<td>Understands soil formation and its biologic, chemical and physical aspects</td>
<td>○</td>
<td>○</td>
<td>○</td>
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<td>○</td>
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<tr>
<td>Can communicate impact of crop production on soils and the environment</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Can construct an argument to support a position</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
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</tr>
<tr>
<td>Understands food processing issues</td>
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<td>○</td>
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<td>○</td>
</tr>
</tbody>
</table>
Q2 Are there other skills/competencies that you feel should be added to this list of the UW-River Falls broad area agriculture/ag studies student learning outcomes?

________________________________________________________________

That completes the survey.

Thank you very much for your input!
Appendix F – Assessment Program Review

Not currently available.