Program Assessment Report (PAR)

Technical Study (TS): Agriculture (AGRI) Associate Degree

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ACADEMIC YEAR COVERED BY THIS REPORT: 2021-2022

I. PROGRAM LEARNING OUTCOMES

1. Students will demonstrate an applied knowledge of basic agronomic principles such as planting, harvesting, pesticide/herbicide use, soil science and basic marketing concepts.

2. Students will demonstrate applied knowledge of basic animal science principles such as breeding and reproductive cycles, animal nutrition concepts, animal husbandry, animal physiology, breeds and genetic concepts.

3. Students will demonstrate effective written and oral communication skills.

4. Students will demonstrate knowledge of current agricultural issues such as environmental stewardship, animal welfare, risk management, market fluctuation, and emerging technology.

5. Students will demonstrate applied knowledge of agricultural business and finance such as lending, regulations, laws, business planning, budgeting, and workforce management.

II. PROCEDURES USED FOR ASSESSMENT

A. **Direct Assessment**

1. Students will demonstrate an applied knowledge of basic agronomic principles such as planting, harvesting, pesticide/herbicide use, soil science and basic marketing concepts.
-Students are assessed during FAS 2040: Introduction to Agronomy.
-Students are evaluated with a final written assignment on agronomic crops using a rubric.
-Achievement of learning outcomes will be determined by randomly selecting 3 submissions per class and evaluating them (by a faculty member in the Agriculture Program who did not teach the course) using a single point rubric.

2. Students will demonstrate applied knowledge of basic animal science principles such as breeding and reproductive cycles, animal nutrition concepts, animal husbandry, animal physiology, breeds and genetic concepts.
-Students are assessed during FAS 2030: Introduction to Animal Science.
-Students are evaluated with a final cumulative exam given at the end of the semester.

3. Students will demonstrate effective written and oral communication skills.
-Students are assessed during FAS 1010: Agriculture Society.
-Students are evaluated with a written assignment on a current agricultural topic using a rubric.
-Achievement of learning outcomes will be determined by randomly selecting 3 submissions per class and evaluating them (by a faculty member in the Agriculture Program who did not teach the course) using a single point rubric.

4. Students will demonstrate knowledge of current agricultural issues such as environmental stewardship, animal welfare, risk management, market fluctuation, and emerging technology.
-Students are assessed during FAS 1010: Agriculture Society.
-Students are evaluated with a written assignment on a current agricultural issue using a rubric.
-Achievement of learning outcomes will be determined by randomly selecting 3 submissions per class and evaluating them (by a faculty member in the Agriculture Program who did not teach the course) using a single point rubric.

5. Students will demonstrate applied knowledge of agricultural business and finance such as lending, regulations, laws, business planning, budgeting, and workforce management.
-Students are assessed during FAS 2100: Farm Business Management.
-Students are evaluated with the final exam for the course.

B. Scoring of Student Work

1. Students will demonstrate an applied knowledge of basic agronomic principles such as planting, harvesting, pesticide/herbicide use, soil science and basic marketing concepts.
-Scoring by the course instructor of the final written assignment for the course FAS 2040: Introduction to Agronomy will be shared and will include the average student score as well as the range of student scores. The course instructor graded the assignment utilizing a rubric.
-Additionally, a random selection of 3 samples from the course will be evaluated by a program faculty member who did not teach this course to evaluate alignment with the learning objective by use of a single point rubric.

2. Students will demonstrate applied knowledge of basic animal science principles such as breeding and reproductive cycles, animal nutrition concepts, animal husbandry, animal physiology, breeds and genetic concepts.
-Scoring by the course instructor of the final exam for the course FAS 2030: Introduction to Animal Science will be shared and will include the average student score as well as the range of student scores. The course instructor graded the assignment utilizing an answer key.

3. Students will demonstrate effective written and oral communication skills.
-Scoring by the course instructor of the written assignment on a current agricultural topic for the course FAS 1010: Agricultural Society will be shared and will include the average student score as well as the range of student scores. The course instructor graded the assignment utilizing a rubric.
-Additionally, a random selection of 3 samples from the course will be evaluated by a program faculty member who did not teach this course to evaluate alignment with the learning objective by use of a single point rubric.

4. Students will demonstrate knowledge of current agricultural issues such as environmental stewardship, animal welfare, risk management, market fluctuation, and emerging technology.
-Scoring by the course instructor of the written assignment on a current agricultural issue for the course FAS 1010: Agricultural Society will be shared and will include the average student score as well as the range of student scores. The course instructor graded the assignment utilizing a rubric.
-Additionally, a random selection of 3 samples from the course will be evaluated by a program faculty member who did not teach this course to evaluate alignment with the learning objective by use of a single point rubric.

5. Students will demonstrate applied knowledge of agricultural business and

finance such as lending, regulations, laws, business planning, budgeting, and workforce management.

-Scoring by the course instructor of the final exam for the course FAS 2100: Farm Business Management will be shared and will include the average student score as well as the range of student scores. The course instructor graded the assignment utilizing an answer key.

C. Indirect Assessment

In the fall of 2022, an alumni survey was developed and distributed to alumni (earliest graduation was Fall 2019) of the Agriculture Program (BTAS and ATS Agriculture Concentrations). Additionally, this survey was shared on the program Facebook page to all alumni of the program. We plan to share this survey at the end of the spring semester in all following years to recent graduates. Please see attached document: IndirectAssessmentTool_AlumniSurvey_2022.pdf

III. ASSESSMENT RESULTS/INFORMATION:

AY 2021/2022: Learning outcomes 1 and 2 were selected for assessment.

To evaluate learning outcome 1, FAS 2040 Introduction to Agronomy will be utilized. In this course, a cumulative final assignment was used assess student mastery of content. The course grades assigned by the course instructor were an average score of 98.53% (rang of 95 to 100%) for the 16 students in the course. To evaluate how the assignment submissions aligned with learning outcome 1, a faculty member of the Agriculture program who did not teach this course, evaluated three randomly selected writing samples, utilizing a single point rubric tailored to the outcomes of learning outcome 1. Results of this additional review were that in many of the areas of the rubric, there was much room for improvement. There are glimpses of content mastery, but at the same time large knowledge gaps. This may in part be due to the assignment itself as it focuses on only some aspects of learning outcome 1.

To evaluate learning outcome 2, FAS 2030 Introduction to Animal Science will be utilized. In this course, a cumulative final exam is given at the end of the semester to assess student mastery of content. The average grade for the final exam was 87.62% with a range of 66.43 to 100%. Of the 13 students in the course, 12 completed the final exam (incomplete score omitted from assessment) and 11 out of 12 students earned a passing grade of a C or above (70% or greater).

Supporting documents (included as one PDF titled AY2021_2022):

FinalExam_FAS2030_Fall2021

Introduction to Agronomy Final Exam – Spring 2022

LearningOutcome1ProgramAssessmentRubric

WritingSample1_FAS2040_Spring22

WritingSample2_FAS2040_Spring22

WritingSample3_FAS2040_Spring22

LearningOutcome1Assessment_FAS2040_Spring2022

Based on the evaluation of the assignment related to learning objective 1, we intend to revise the final assignment to include more content requirements and clear directions. As of August 2022, a full time Assistant Professor of Agronomy has been hired and is part of the Agriculture Program. He intends to teach this class starting in spring of 2023 and will be assessing course content and assignments as he develops his course materials.

Based off of the evaluation of the assignment related to learning objective 2, we feel that the learning objective is being met. In the future we will continue to build off of the content being presented to the students but work to incorporate more hands-on activities, field trips, and guest speakers as these are learning methods that our students have identified best for their learning as they help to being a real-world aspect to the content and help with later application of knowledge.

IV. ACTIONS TO IMPROVE STUDENT LEARNING

In December of 2021 and 2022 the advisory board for the Agriculture Program was called to meet to share the current events of the program as well as gain feedback from stakeholders within the local agricultural community. Agendas for both meetings can be viewed in the supplemental documents included in this report, but key items of feedback that we received were that students need additional training in written communication, verbal communication, and applied mathematics. In the most recent meeting of the advisory board there were many suggestions of increasing networking between students and the local community and many of the board members provided the names of individuals who would be

excellent hosts for class trips and guest speakers. In the future we plan to hold meetings with the advisory board on an annual basis. In addition, in the fall of 2022 we administered a current student survey to gain insight on student interests in the classroom (report included in supplemental documents) and we plan to offer this survey annually to gain student feedback on the program as a whole while they are in the program. By combining this feedback with knowledge gained through assessment of learning outcomes, we will be able to make changes as needed to ensure that students are being supported throughout their education. We plan to continue inviting guest speakers into the classroom, engaging in field trips, and hands-on learning as these were class activities that were favorably viewed by students as supportive to their learning. The next step for program improvement is to evaluate the Agriculture concentration requirements to identify if further structure is needed to help students fully achieve learning outcomes. Alumni survey indicated that knowledge of areas relating to the 5 learning objectives was overall moderate or above, but in the cases of students who elected to not take additional courses in a certain area (for example animal science), they ranked their knowledge lower in those instances.

V. SUPPORTING DOCUMENTS

Additional documentation, when provided, is stored in the internal Academic Program Assessment of Student Learning SharePoint site.