Program Plan and Findings: Four Column Layout



Program (AG) - AFS - Animal Science (MS) - 019

Program Mission Statement: Building on its tradition of excellence, the Department of Animal and Food Sciences (AFS) discovers, develops and disseminates scientific knowledge to advance the animal and food industries.

The Department of AFS has preeminent programs in teaching, research and extension that will continue to serve societal needs related to the animal and food industries. Pertaining to the degree programs, the Department will develop life-long learners who understand science, can think creatively and analytically, treat others with honesty and respect, and are prepared to serve and lead the animal and food industries with confidence.

Offer effective, dynamic and progressive graduate programs that attract and motivate advanced degree students and prepare them to serve society, the animal and food industries, education, and research.

Program Information

2019 - 2020

Program Information

Assessment Coordinator's Name: Divya Jaroni

Assessment Coordinator's E-mail Address: divya.jaroni@okstate.edu

Number of Students Enrolled in the Program: 40

Total Number of Students Graduated: 13

Number of Student Graduates from Stillwater Campus: 13

Number of Student Graduates from Tulsa Campus:

Were university assessment funds used by the department/program for assessment activities?: No If yes, describe how funds were used and the contribution the funds had on the assessment process:

Annual Executive Summaries

2019 - 2020

Program Assessment Coordinator: Divya Jaroni

<u>Plan Review and Approval</u>

Date Current Plan Was Reviewed and Approved: 08/01/2016 Date of Future Plan Review and Approval: 08/01/2021

Summary of Assessment Findings

Describe overall assessment findings and faculty members' interpretation of the assessment results: Given the current circumstances, out of the 13 graduates, only 6

students submitted their evaluation forms. The majority of oral presentations for students' defense were done virtually with limited participation from faculty members and other students. Overall, this year's M.S. students performed above normal expectations. No scores were outside the acceptable range, indicating that the students had satisfactorily completed their program and had gained significant knowledge in their field of study, during their MS program.

Dissemination of Findings

Describe the individual(s) or committee responsible for reviewing and interpreting assessment data: The assessment committee, along with the Department Head, will be given the assessment report for review and comment.

Describe the process for sharing and discussing assessment findings with program faculty: N/A

Program Improvements Based on Assessment

Based on data collected this year, what changes are being considered or planned for the program?: Additional communication will be needed between the assessment coordinator, graduate coordinator and faculty committee chairs to the importance of completing and returning assessment documents.

Based on this year's findings, what (if any) changes are planned for the assessment process?: Increased communication and delivery of the rubrics Describe the process for implementing these changes/planned program improvements: The assessment program will be discussed in an upcoming faculty meeting Program Improvements Made in the Last Year: Improved Faculty Understanding or Buy-In "Other" Improvements:

Goals for the Coming Year: Increased faculty participation, particularly the graduate committee chairs. Student accountability by making the evaluation forms part of their defense checklist.

Findings

Is this Summary Report Complete?: Yes

List all individuals associated with this report preparation: Divya Jaroni

Outcomes

Assessment Methods

Use of Findings (Actions)

Critical Thinking - Graduates will demonstrate the ability to think critically and apply the scientific method and knowledge of animal science and related disciplines in conducting research and solving needs of the animal industries (demonstrated problem-solving skills). This includes the possession of field, laboratory and computer skills for conducting research and the ability to plan, execute, and interpret semester experiments. Included are abilities in experimental design, analysis of data, Related Documents: and critical evaluation.

Outcome Status: Active Planned Assessment Year: 2017 -2018, 2018 - 2019, 2019 - 2020

Start Date: 08/17/2019 **Archived Date:**

Outcome Type: Skills Reason for Archival:

Analysis of Written Artifacts - This assessment takes place as part of the evaluation of the student's defense and the thesis of the student.

* Learning Outcome **Goal/Benchmark:** A minimum level of achievement expected for a M.S. student is "3" or "4" on various items in the rubric.

Timeline for Assessment: Each

Other Assessment Type:

CASNR AFS Animal Science-MS rubrics.pdf

Reporting Period: 2019 - 2020

Conclusion: 3 - Meets Program Expectations (Proficient) Rubric Item B. Thesis tested hypotheses generated by the candidate from an analysis of previous work, both published and unpublished. (5 candidate generated the hypothesis and mastered the analysis that led to it; 4 candidate did not generate hypothesis but has mastered the analysis that led to it; 3 knows the hypothesis; 2 doesn't know the hypothesis; 1 no hypothesis).

All students, in M.S. Animal Science, scored a "4" or higher. Students scoring a "5" in this category (50%) generated the hypothesis and mastered the analysis. Students scoring a 4 (50%) did not generate the hypothesis but had mastered the analysis that led to it.

Discussion: In the AFS department, many graduate students will work on long-term projects for which the hypothesis and/or hypotheses was/were generated long before the student came on the proj.ect. As a department, we are satisfied with all students scoring a 4 or 5.

Rubric Item C. Experiments reported were designed well to

Use of Findings (Actions): No changes planned at the present time. The students satisfactorily completed their M.S. animal science program and are prepared for the industry or carry on further studies in academia. (09/22/2020)

Use of Findings (Actions)

test hypotheses. Scored on a 1-5 scale with

1. strongly disagree

2. disagree

3. neutral

4. agree 5. strongly agree

Animal Science M.S. All of the students in the evaluation scored a "4" or "5" in this category.

Discussion. In the AFS department, graduate students very rarely work completely independently on experimental design. Scores on this evaluation also evaluate the more experienced hands of the thesis/dissertation director as well as the students. The Department is satisfied with the average score of students (4.7). (09/22/2020)

Number of Students Assessed: 6 Number of Successful Students: 6

How were students selected to participate in the assessment of this outcome?: Students were evaluated during their thesis presentation and defense (oral, with the graduate committee)

What do the findings suggest about student achievement of this learning outcome?: The students demonstrated the ability to think critically and apply the scientific method and knowledge of animal science and related disciplines in conducting research and solving needs of the animal industries.

Oral Presentation - This assessment takes place as part of the evaluation of the student's defense and the thesis of the student.

* Learning Outcome

Goal/Benchmark: A minimum level of achievement expected for a M.S. student is "3" or "4" on various items in the rubric.

Timeline for Assessment: Each semester

Other Assessment Type: Related Documents:

<u>CASNR_AFS_Animal Science-MS_rubrics.pdf</u>

Reporting Period: 2019 - 2020

Conclusion: 3 - Meets Program Expectations (Proficient)
Rubric Item B. Thesis tested hypotheses generated by the
candidate from an analysis of previous work, both published
and unpublished. (5 candidate generated the hypothesis
and mastered the analysis that led to it; 4 candidate did not
generate hypothesis but has mastered the analysis that led
to it; 3 knows the hypothesis; 2 doesn't know the
hypothesis; 1 no hypothesis).

All students, in M.S. Animal Science, scored a "4" or higher. Students scoring a "5" in this category (50%) generated the hypothesis and mastered the analysis. Students scoring a 4 (50%) did not generate the hypothesis but had mastered the analysis that led to it.

Discussion: In the AFS department, many graduate students will work on long-term projects for which the hypothesis

Use of Findings (Actions): No changes planned. (09/22/2020)

and/or hypotheses was/were generated long before the student came on the proj.ect. As a department, we are satisfied with all students scoring a 4 or 5.

Rubric Item C. Experiments reported were designed well to test hypotheses. Scored on a 1-5 scale with
1. strongly disagree 2. disagree 3. neutral 4. agree 5. strongly agree

Animal Science M.S. All of the students in the evaluation scored a "4" or "5" in this category.

Discussion. In the AFS department, graduate students very rarely work completely independently on experimental design. Scores on this evaluation also evaluate the more experienced hands of the thesis/dissertation director as well as the students. The Department is satisfied with the average score of students (4.7). (09/22/2020)

Number of Students Assessed: 6 Number of Successful Students: 6

How were students selected to participate in the assessment of this outcome?: Students were evaluated during the oral presentation of their thesis defense.

What do the findings suggest about student achievement of this learning outcome?: Students are ready to enter the work-force or further graduate work.

Reporting Period: 2019 - 2020

Conclusion: 2 - Meets Minimum Program Expectations (Developing)

No responses were received. No data to report (09/22/2020)

Number of Students Assessed: 0 Number of Successful Students: 0

How were students selected to participate in the assessment of this outcome?: Students were evaluated during their oral presentation of thesis defense.

What do the findings suggest about student achievement of this learning outcome?: No data to report

Survey - Satisfaction Survey

This assessment takes place as part of the evaluation of the student's defense and the thesis of the student.

* Learning Outcome

Goal/Benchmark: A minimum level of achievement expected for a M.S. student is "3" or "4" on various items in the rubric.

Timeline for Assessment: Each semester

Other Assessment Type: Related Documents:

CASNR_AFS_Animal Science-

Use of Findings (Actions): No data

reported (09/22/2020)

MS_rubrics.pdf

Knowledge - Graduates will have acquired fundamental knowledge in the selected animal science field and understanding of the principles underlying the field. Also, the possession of substantial understanding of the biological sciences and statistics. Included are assimilation of information, its integration with other knowledge, and its intelligent use.

Outcome Status: Active Planned Assessment Year: 2017 -2018, 2018 - 2019, 2019 - 2020

Start Date: Archived Date:

Outcome Type: Knowledge Reason for Archival:

Analysis of Written Artifacts - This assessment takes place as part of the evaluation of the student's defense and during their thesis/dissertation of the student.

* Learning Outcome

Goal/Benchmark: A minimum of "4" is considered acceptable.

Timeline for Assessment: Each semester

Other Assessment Type: Related Documents:

<u>CASNR_AFS_Animal Science-</u> MS_rubrics.pdf Reporting Period: 2019 - 2020

Conclusion: 3 - Meets Program Expectations (Proficient)
Rubric item A - Over 83% of the M.S. students scored a 4.0
or higher on this rubric item. Student that scored 4 - 4.8
indicated they were aware of all directly relevant literature.
Students (17%) scoring a 5 on this item were aware of
literature both directly relevant to the work done and from
related fields. Students who scored 3, were aware of a good
range of literature.

Rubric item F - Over 94% of students scored either 4 or 5 in this category indicating that results were placed in proper context of other work. The animal science program provides proper opportunity for graduate students to relate their research to similar work at other institutions. This is quite an accomplishment for M.S. students.

Rubric item P - In this rubric item, 20% of students scored as a "5", 65% scored a "4", while 15% scored "3". This indicates that our program provides proper background and preparation for students to appropriately field relevant questions associated with their research work. Given that 85% scored a 4 or better on this item, the department is extremely satisfied.

Rubric item G - Over 80% of students scored a 4 or higher in this category, while 20% scored 5. This indicates that when presenting material to others our students prepare the topic in such a way that they can knowledgeably answer questions from the audience. This is the desired and therefore acceptable outcome. We are quite pleased that the M.S. students scored so well in this category. (09/22/2020)

Number of Students Assessed: 6 Number of Successful Students: 6 How were students selected to participate in the assessment of this outcome?: Students were evaluated during their thesis presentation and defense.

What do the findings suggest about student achievement

Use of Findings (Actions): No change required. Continue preparing students. (09/22/2020)

The system appears to be working as desired for all departmental graduate programs. There are no recommendations for change that came from this particular assessment.

F - Context is important; and often this is the hardest part for M.S. students to put other research results in context

accountable for the science behind the work they conduct.

of this learning outcome?: A - Students are held

F - Context is important; and often this is the hardest part for M.S. students to put other research results in context with their own. Students are being further encouraged by their faculty members earlier in their programs to get into the literature and to summarize other research results. The department is very satisfied with this outcome this year.

P - Interpretation of data and successfully defending data and answering questions is an important skill for our graduates to master. We continue to encourage the students to understand their statistics, their interpretation and results, which helps this score increase.

G - Students evaluated in a MS defense are generally extremely nervous and on edge in these settings since most have limited experience doing this type of presentation. Given that all students still scored a 4 or a 5 in this category by faculty outside of their committee, this is extremely satisfying to the department

Oral Presentation - This assessment takes place as part of the evaluation of the student's defense and during their thesis/dissertation of the student.

* Learning Outcome Goal/Benchmark: A minimum of "4" is considered acceptable.

Timeline for Assessment: Each semester.

Other Assessment Type: Related Documents:

<u>CASNR_AFS_Animal Science-</u> MS_rubrics.pdf Reporting Period: 2019 - 2020

Conclusion: 3 - Meets Program Expectations (Proficient)
Rubric item A - Over 83% of the M.S. students scored a 4.0
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indicated they were aware of all directly relevant literature.
Students (17%) scoring a 5 on this item were aware of
literature both directly relevant to the work done and from
related fields. Students who scored 3, were aware of a good
range of literature.

Rubric item F - Over 94% of students scored either 4 or 5 in this category indicating that results were placed in proper context of other work. The animal science program provides proper opportunity for graduate students to relate their research to similar work at other institutions. This is

Use of Findings (Actions): No change planned at this time. (09/22/2020)

quite an accomplishment for M.S. students.

Findings

Rubric item P - In this rubric item, 20% of students scored as a "5", 65% scored a "4", while 15% scored "3". This indicates that our program provides proper background and preparation for students to appropriately field relevant questions associated with their research work. Given that 85% scored a 4 or better on this item, the department is extremely satisfied.

Rubric item G - Over 80% of students scored a 4 or higher in this category, while 20% scored 5. This indicates that when presenting material to others our students prepare the topic in such a way that they can knowledgeably answer questions from the audience. This is the desired and therefore acceptable outcome. We are quite pleased that the M.S. students scored so well in this category. (09/22/2020)

Number of Students Assessed: 6 Number of Successful Students: 6 How were students selected to participate in the assessment of this outcome?: Evaluated during M.S.

defense and presentation

What do the findings suggest about student achievement of this learning outcome?: A - Students are held accountable for the science behind the work they conduct. The system appears to be working as desired for all departmental graduate programs. There are no recommendations for change that came from this particular assessment.

- F Context is important; and often this is the hardest part for M.S. students to put other research results in context with their own. Students are being further encouraged by their faculty members earlier in their programs to get into the literature and to summarize other research results. The department is very satisfied with this outcome this year.
- P Interpretation of data and successfully defending data and answering questions is an important skill for our graduates to master. We continue to encourage the

students to understand their statistics, their interpretation and results, which helps this score increase.

G - Students evaluated in a MS defense are generally extremely nervous and on edge in these settings since most have limited experience doing this type of presentation. Given that all students still scored a 4 or a 5 in this category by faculty outside of their committee, this is extremely satisfying to the department

Reporting Period: 2019 - 2020

Conclusion: 2 - Meets Minimum Program Expectations

(Developing)

No responses were received. No data to report

(09/22/2020)

Number of Students Assessed: 0 Number of Successful Students: 0

How were students selected to participate in the assessment of this outcome?: Evaluation during M.S.

defense.

What do the findings suggest about student achievement

of this learning outcome?: No data to report

Use of Findings (Actions): No changes planned at this time. (09/22/2020)

This assessment takes place as part of the evaluation of the student's

Survey - Satisfaction Survey

defense and during their thesis/dissertation of the student.

* Learning Outcome

Goal/Benchmark: A minimum of "4" is considered acceptable.

Timeline for Assessment: Each semester.

Other Assessment Type: Related Documents:

CASNR AFS Animal Science-MS rubrics.pdf

Effective Communication - Graduates will demonstrate ability to evaluate and communicate scientific data to others in writing and in oral and visual presentations.

Outcome Status: Active Planned Assessment Year: 2017 -2018, 2018 - 2019, 2019 - 2020

Start Date: **Archived Date:** Outcome Type: Skills Reason for Archival:

Survey - All committee chairs were asked to evaluate their students.

* Learning Outcome **Goal/Benchmark:** A score of 4 is considered acceptable.

Timeline for Assessment: Each semester

Other Assessment Type: **Related Documents:**

CASNR AFS Animal Science-MS rubrics.pdf

Reporting Period: 2019 - 2020

Conclusion: 3 - Meets Program Expectations (Proficient) Rubric A, B, C, D, E, F, & H - All of those evaluated scored a 4 or 5 on the questions for the M.S. students. While it is typical that not all M.S. students will be outstanding presenters, most of these students did an outstanding job. They are also much more likely to be presenting in small informal seminars where this is more difficult to assess (as compared to Ph.D. students).

Rubric I, J, K, L, O - All students scored between 4 and 5 on all of the questions. While some students seem to struggle most with table organization and construction, as well as communicating thoughts logically but even so, these results are more than satisfactory for M.S. students. (09/22/2020)

Use of Findings (Actions):

Continue with departmental seminars and provide students with other opportunities to present their research. (09/22/2020)

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Number of Students Assessed: 6 Number of Successful Students: 6 How were students selected to participate in the

assessment of this outcome?: All committee chairs were asked to evaluate their students.

What do the findings suggest about student achievement of this learning outcome?: Rubric A, B, C, D, E, F, & H - The AFS Department now requires all graduate students (at least once during their program) to present a seminar at the Departmental Seminar. All other graduate students (not enrolled in the Seminar course) are also expected to attend the seminar and actively participate by asking questions to the presenter. Additionally, the Whiteman Award competition for Thesis presentation is also a great opportunity for students to become proficient in effective communication. To a large extent, this may be the reason for the higher scores of the students. This effort will hopefully continue to increase the scores of the students in these assessment areas.

Rubric H, I, J, K, L, O - As a department, we continue to work with students on improving both oral and written presentation skills, as these are traits that are important for all of our graduates. More and more classes are offering students a chance to present material verbally and as written reports, which helps students further develop these skills before their defense presentations.

Oral Presentation - All committee chairs were asked to evaluate their students.

* Learning Outcome Goal/Benchmark: A score of 4 is considered acceptable.

Timeline for Assessment: Each semester

Other Assessment Type: Related Documents:

<u>CASNR_AFS_Animal Science-MS_rubrics.pdf</u>

Reporting Period: 2019 - 2020

Conclusion: 3 - Meets Program Expectations (Proficient) Rubric A, B, C, D, E, F, & H - All of those evaluated scored a 4 or 5 on the questions for the M.S. students. While it is typical that not all M.S. students will be outstanding presenters, most of these students did an outstanding job. They are also much more likely to be presenting in small informal seminars where this is more difficult to assess (as compared to Ph.D. students).

Rubric I, J, K, L, O - All students scored between 4 and 5 on all of the questions. While some students seem to struggle most with table organization and construction, as well as communicating thoughts logically but even so, these results are more than satisfactory for M.S. students. (09/22/2020)

Number of Students Assessed: 6 Number of Successful Students: 6

How were students selected to participate in the assessment of this outcome?: All committee chairs were asked to evaluate their students.

What do the findings suggest about student achievement of this learning outcome?: Rubric A, B, C, D, E, F, & H - The AFS Department now requires all graduate students (at least once during their program) to present a seminar at the Departmental Seminar. All other graduate students (not enrolled in the Seminar course) are also expected to attend the seminar and actively participate by asking questions to the presenter. Additionally, the Whiteman Award competition for Thesis presentation is also a great opportunity for students to become proficient in effective communication. To a large extent, this may be the reason for the higher scores of the students. This effort will hopefully continue to increase the scores of the students in these assessment areas.

Rubric H, I, J, K, L, O - As a department, we continue to work with students on improving both oral and written presentation skills, as these are traits that are important for all of our graduates. More and more classes are offering students a chance to present material verbally and as written reports, which helps students further develop these skills before their defense presentations.

Reporting Period: 2019 - 2020

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Rubric I, J, K, L, O - All students scored between 4 and 5 on all of the questions. While some students seem to struggle most with table organization and construction, as well as communicating thoughts logically but even so, these results

Use of Findings (Actions): No change planned. (09/22/2020)

Review of
Thesis/Dissertation/Creative
Component - All committee chairs
were asked to evaluate their
students.

* Learning Outcome Goal/Benchmark: A score of 4 is considered acceptable.

Timeline for Assessment: Each semester.

Other Assessment Type: Related Documents:

CASNR_AFS_Animal Science-MS_rubrics.pdf are more than satisfactory for M.S. students. (09/22/2020)

Number of Students Assessed: 6 Number of Successful Students: 6

How were students selected to participate in the assessment of this outcome?: All committee chairs were

asked to evaluate their students.

What do the findings suggest about student achievement of this learning outcome?: Rubric A, B, C, D, E, F, & H - The AFS Department now requires all graduate students (at least once during their program) to present a seminar at the Departmental Seminar. All other graduate students (not enrolled in the Seminar course) are also expected to attend the seminar and actively participate by asking questions to the presenter. Additionally, the Whiteman Award competition for Thesis presentation is also a great opportunity for students to become proficient in effective communication. To a large extent, this may be the reason for the higher scores of the students. This effort will hopefully continue to increase the scores of the students in these assessment areas.

Rubric H, I, J, K, L, O - As a department, we continue to work with students on improving both oral and written presentation skills, as these are traits that are important for all of our graduates. More and more classes are offering students a chance to present material verbally and as written reports, which helps students further develop these skills before their defense presentations.

Career Readiness - Preparation for careers in livestock and food industries.

Outcome Status: Active Planned Assessment Year: 2017 -2018, 2018 - 2019, 2019 - 2020

Start Date: Archived Date: Outcome Type: Skills Reason for Archival:

Survey - Alumni survey * Learning Outcome

Goal/Benchmark: No goal defined

Timeline for Assessment: Other Assessment Type:

Reporting Period: 2019 - 2020

Conclusion: 2 - Meets Minimum Program Expectations

(Developing)

No responses received. (09/22/2020) Number of Students Assessed: 0 Number of Successful Students: 0

How were students selected to participate in the assessment of this outcome?: No data to report

What do the findings suggest about student achievement

of this learning outcome?: No data to report

Use of Findings (Actions): Discuss with AFS faculty if this is necessary (09/22/2020)