

**Program Assessment Report
MS Food Safety
University of Arkansas**

1. Department Name & Contact Information

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2. Program Mission

The mission of this program is to expand the knowledge base and skill set of experienced food safety professional working in the industry to prepare them for higher positions in their field.

3. Program Goals

1. Identify the important pathogens and spoilage microorganisms in food and the conditions which they are controlled, inactivated, grow or made harmless.
2. Analyze case studies to determine how food contamination occurs and develop preventative strategies that reduce the risk of illness associated with food contamination.
3. Understand how government regulations are developed and enforced and where to find various government food regulations that address the safe production of food.
4. Apply and incorporate both current principles and information on food safety and theoretical information to solve problems in practical, real-world situations.
5. Recognize the involvement of sanitation in food quality assurance and management programs (HACCP, GMPs, SOPs, etc.) and how it effects safe food production.
6. Understand the basic principles and practices of cleaning and sanitation in food processing operations.
7. Identify the etiological factors associated with common foodborne diseases and explain the epidemiological process in the investigation and reporting of disease and disease causation.
8. Explain absorption, metabolism, and excretion of toxicants in foods.
9. Communicate comprehensive food safety information to others that allows them to assimilate and utilize this knowledge in their field.

Student Learning Outcomes

1. Students will have the ability to write for a range of audiences using a clear, evidence-based, and concise synthesis of information to convey results, implications, and contributions to their field of study.
2. Students will have the ability to prepare and deliver oral presentations that are appropriate for a range of audiences and conveys a clear, relevant, evidence-based, and memorable message.

3. Through the Special Problems experience, students will demonstrate the ability to apply and incorporate both current and theoretical information on food safety to solve problems in practical, real-world situations.

Means of assessment

1. A mean rubric score for each rubric must be 2 for the written special problem paper and 2.7 for the special problem oral presentation to receive a passing decision.

Student Learning Outcome 1. Students will have the ability to write for a range of audiences in a clear, scientifically sound, and concise synthesis of information conveying results, implications, and contributions to their field of study.

A. Assessment Measure

1. **Direct measures:**
 1. Assessment of written work submitted in the Capstone course
 2. Assessment of oral presentation of the Capstone project
2. **Key personnel:** committee members for each student; committees are comprised of graduate faculty

B. Acceptable and Ideal Targets (not required for indirect measures).

1. It is acceptable that 75% of all students perform at a satisfactory (2.5) or higher level in the subject area portion of the rubric; it is ideal that 95% of all students perform at a satisfactory (2.5) or higher level in the subject area portion of the rubric.

Student Learning Outcome 2. Students will have the ability to prepare and deliver an oral presentation that is appropriate for a range of audiences and conveys a clear, relevant, scientifically-sound, and memorable message

A. Assessment Measure

a. Direct measures:

1. Assessment of oral presentation of special project (see attached rubric)
2. **Key personnel:** graduate studies committee members; committee members for each student; committees are comprised of graduate faculty

B. Acceptable and Ideal Targets (not required for indirect measures).

Oral communication:

1. It is acceptable that 75% of all students perform at a satisfactory or higher level in oral and written communication; it is ideal that 95% of all students perform at a satisfactory or higher level in oral and written communication.

Student Learning Outcome 3. Students will have the ability to write for a range of audiences in a clear, scientifically sound, and concise synthesis of information conveying results, implications, and contributions to their field of study. Through the Special Problems experience, students demonstrate the ability to apply and incorporate both current principles and information on food safety and theoretical information to solve problems in practical, real-world situations.

A. Assessment Measure

Acceptable and Ideal Targets (not required for indirect measures).

- Acceptable: 70% of students presenting their Capstone paper will score “proficient” or greater.
- Ideal: All the students presenting their Capstone course paper will score “proficient” or greater.

Key Personnel (who is responsible for the assessment of this measure).

- Graduate advisory committee is the responsible party.

C. Summary of Findings

Student Learning Outcome 1: Students will have the ability to write for a range of audiences in a clear, scientifically sound, and concise synthesis of information, conveying results, implications, and contributions to their field of study.

During the 2024-2025 academic year, 16 students completed the Capstone course in this program. Each student wrote a Capstone course paper and, once the student and committee members agree, the student presents this paper to their committee. In the Spring 2025 semester, 7 students presented their work to their committee members. Two students and their committee have decided to push back the completion of the document and presentation.

However, committee members for the 7 students who did present evaluated the written work and each student’s oral communication skills. The committee members determined that all students produced and presented an acceptable paper. The committee members scored all students as agree or strongly agree overall quality of the presentation, breadth of knowledge, and quality of response to questions. Results for the scientific paper varied. The majority of students were scored by their committee members in the agree or strongly agree categories (thus meeting the program assessment goals). However, committee members identified some areas that may need improvement. For instance, some committee members identified a weakness in strong critical thinking skills (13%), successfully synthesizing information from the literature (25%), and demonstrating good ability

to critically discuss research gaps in one's own work or that of other research in the field (13%).

D. Recommendations (not required for indirect measures)

5. Overall Recommendations

A major change to this program was implemented this academic year, the Capstone course replaced the Special Problems requirement. Faculty believe this change will provide structure to students as they complete the program. Previously, students in this program found the Special Problem requirement a roadblock to completing their degree. Faculty made changes to the program to replace the Special Problem with a Capstone course. The faculty tested the capstone course and the course was approved through the curriculum process. A minor program change was submitted to the curriculum committee in the Fall of 2024 and has been approved. In addition to the curriculum change, the Capstone course instructor and faculty on the program steering committee developed a rubric for all committee members to use in evaluating student's final projects. We believe the course will provide structure and focus thus leading to students finishing the final project and the program in a timelier manner.

6. Action Plan

With the Capstone course in place and the minor program change approved, the faculty will engage in a curriculum review to check for overlaps and gaps in the curriculum. Additionally, it has been recommended that the program faculty consider creating a deficiency course for applicants who lack a strong science background.

7. Supporting Attachments