MFSQ Graduate Program Assessment for
NDFS Department 2021

The Master of Food Safety and Quality is a professional degree designed to provide students with in-depth training in food safety assurance and quality control. The program trains students in the use of management systems that address food safety and quality through the analysis and control of biological, chemical, and physical hazards from raw material production through procurement and handling, manufacturing, distribution, and consumption of the finished food product. The degree is primarily intended for individuals who wish to advance their careers as supervisors, managers, and inspectors in food safety and quality-related positions in the food industry.

In 2019, the MFSQ degree was moved to an entirely online format, opening the program to students across the nation. A survey was conducted in Dec. 2020 to better understand the needs, motivation, and demographics of current MFSQ students:

- They are employed full time in a food-related field (100%)
- They entered the MFSQ program because of the scheduling flexibility it afforded (100%)
- They desire to increase potential for advancement in their current place of employment (80%) or to enhance future employment opportunities (80%)

Enrollment Summary

Previous metrics used to evaluate MFSQ program performance (full-time vs part-time enrollment, time to graduate, job placement after graduation) are inconsistent with the aforementioned factors and do not provide meaningful assessment of program quality, so are not reported here.

Academic Year	**2020-21**	**2019-20**	**2018-19**
Students Enrolled	4	4	1
Students Graduating	1	1	0

Program Evaluations

Beginning with the 2020-21 academic year, new evaluation metrics are being developed based on stated program objectives, alumni feedback, and industry surveys. As a first step, evaluation of the following learning outcomes was implemented for 2021:

1. Students will demonstrate mastery of content included in industry-driven or regulatory-required training programs.
2. Students will evaluate a specific issue or problem related to food safety and/or quality and develop a solution or systematic approach to address the problem.

Learning Outcome 1

This outcome is assessed by reviewing exam scores. Mastery is demonstrated by passing a challenge exam on a specified training topic at 85% or higher. Challenge exams are given as part

of the NDFS 617X series, which covers the following industry and regulatory trainings: Food Quality Management Systems; Current Good Manufacturing Practices; Hazard Analysis and Critical Control Points; Preventive Controls for Human Food; Produce Safety; and, Acidified Foods. Students are required to complete a minimum of two trainings from this series. For most of these topics, the training must be taken from an accredited or certified trainer outside of the course. Training certificates (which indicate attendance but not learning or understanding) must be provided as part of fulfilling NDFS 617X course requirements.

Course	**Description of Assessment**	**Outcomes for AY 2020-21**
NDFS 6170, Food Quality Management Systems	A challenge exam on topics covered in a training course related to food safety/quality management schemes. Students must complete a training related to industry best practices or third-party auditing (such as Safe Quality Foods).	Enrollment: 1 Passing (<85%): 0* Passing Rate: 0%*
NDFS 6171, Current Good Manufacturing Practices (cGMPs)	A challenge exam on cGMPs, as defined by the Food and Drug Administration. The training for this topic is embedded into the course.	Enrollment: 4 Passing (>85%): 3* Passing Rate: 75%*
NDFS 6172, Hazard Analysis and Critical Control Points (HACCP)	A challenge exam on HACCP systems. Students must complete a formal HACCP training course. HACCP training is required for certain manufacturers subject to FDA and USDA regulations.	Enrollment: 4 Passing (>85%): 3* Passing Rate: 75%*
NDFS 6173, Preventive Controls for Human Food (PCHF)	A challenge exam on the Preventive Controls for Human Food Rule (21CFR §117). Students must complete an FDA-recognized PCHF training course. PCHF training is required by the FDA for certain management positions.	Enrollment: 4 Passing (>85%): 4 Passing Rate:100%
NDFS 6174, Produce Safety (PS)	A challenge exam on the Produce Safety Rule (21CFR §112). Students must complete an FDA-recognized PS training course. PS training is required by the FDA for certain on-farm management positions.	Enrollment: 2 Passing (>85%): 2 Passing Rate: 100%
NDFS 6175, Acidified Foods (AF)	A challenge exam on FDA Standards for Acidified Foods (21CFR §114). Students must complete an FDA-recognized AF training course. AF training is required by the FDA for manufacturers of acidified foods.	Enrollment: 1 Passing (>85%): 1 Passing Rate: 100%

*Indicates student(s) who requested “Incomplete” grades and have not yet completed the course requirements.

Learning Outcome 2

This outcome will be assessed through completion of the requirements for the MFSQ Capstone course. Students are required, in coordination with a faculty advisor, to:

1. Identify an issue or problem related to food safety and/or quality (this may be a project or issue related to their current employment)
2. Complete a formal written capstone report
3. Give a presentation on their project

Final grades are assigned by the faculty advisor. Successful completion of the capstone is considered receipt of a passing grade (B or better, not including "Incomplete" credits changed to a passing grade at a later date). All students are required to complete a capstone project prior to graduation, but often register for capstone credit over multiple semesters.

	Fall 2020	Spring 2021
NDFS 6960, MFSQ Capstone	Enrollment: 1 Completed: 0 % Completion: 0%	Enrollment: 2 Completed: 2 % Completion: 100%

2022 Assessment plan

Work will continue through 2022 to develop meaningful program evaluation metrics, while still tracking the two learning outcomes developed for 2021. There is no national accrediting or certification body associated with graduate degrees related to Food Science. As such, the standards developed by the Institute of Food Technologists to evaluate and approve undergraduate programs will be used as a general guideline, with MFSQ program objectives focusing on a higher level of learning (as defined by Blooms Taxonomy) than the associated undergraduate objectives. To further focus and define appropriate outcomes for the MFSQ program, input will be obtained by:

1. Conducting focus groups with current students to determine what knowledge and skills they *consider* to be important for their future careers.
2. Conducting surveys of alumni to determine what knowledge and skills they *found* to be important in their post-degree careers.
3. Conducting surveys of food industry employers in Utah to determine what knowledge and skills they would *expect* an employee with a graduate education to possess.

This information will be used to develop learning outcomes that can be used as program evaluation metrics. Additional feedback from current students, alumni, and industry, as well as MFSQ faculty, will be solicited to refine the metrics as appropriate. Into 2023, the learning outcomes will be mapped to required MFSQ courses (to the greatest extent possible) and elective MFSQ courses (where not measurable in another course) to identify assignments, exams, projects, or other course-specific measures that can be used to assess program quality.