

NDFS MS and PhD Program Annual Report Fall 2021 to Summer 2022

Table of Contents

PROGRAM YEAR IN REVIEW	2
PROGRAM ASSESSMENT ACTIVITY	2
EXIT SURVEY	2
<i>Response rate</i>	2
<i>Quantitative Results</i>	2
<i>Qualitative Results</i>	4
ANNUAL REVIEW MEETING.....	4
DISSERTATION RUBRIC FORMS	5
OVERALL ASSESSMENT DATA SUMMARY FALL 2021-SUMMER 2022	6
FACULTY RESPONSE TO ASSESSMENT DATA.....	10
COMMUNICATION OF RESOURCES AND REQUIREMENTS	10
<i>Handbook</i>	10
<i>Orientation</i>	10
<i>Website</i>	10
ASSESSMENT PLAN	10
APPENDICES	12
SPRING 2022 EXIT SURVEY DATA.....	12
DISSERTATION RUBRIC DATA	16
THESIS RUBRIC DATA	18

Program Year in Review

Enrollment Fall 2020-Summer 2021			
MS	PhD48	PhD70	Total
9	3	4	16

Graduation Fall 2020-Summer 2021			
MS	PhD48	PhD70	Total
2	2	2	6

The graduate faculty met 4 times over the Fall 2021- Summer 2022 year. During these meetings we used assessment data to inform several program changes. These changes included changes to program assessment and communication with students and faculty.

Last year, the program assessment subcommittee developed a new assessment plan to meet the requirements outlined in the *Assessment Handbook for Academic Programs* from the Office of Analysis, Assessment, & Accreditation (AAA office). The revised program assessment plan was presented to the graduate faculty in Spring 2022, reviewed, revised per discussion, and adopted.

Program Assessment Activity

Exit survey

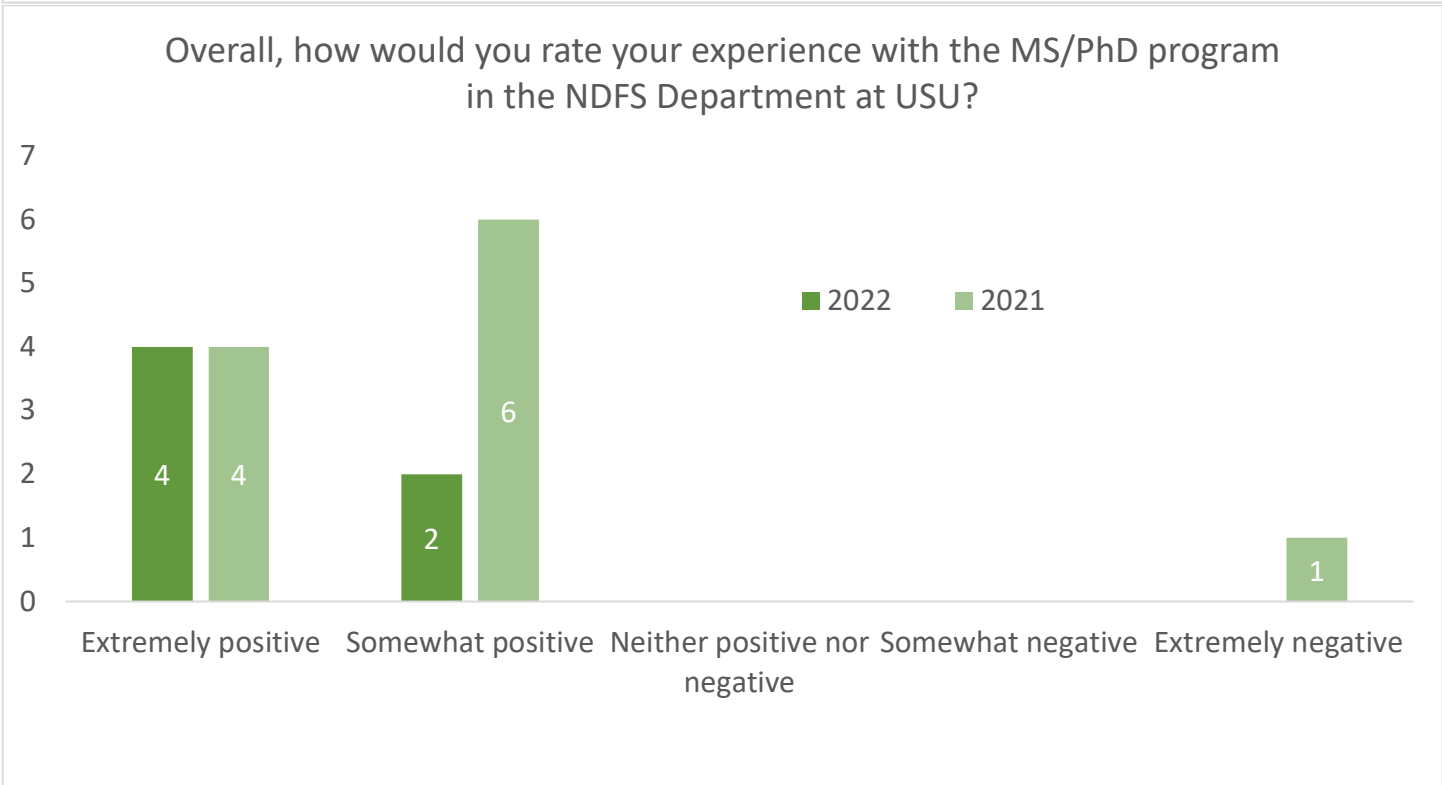
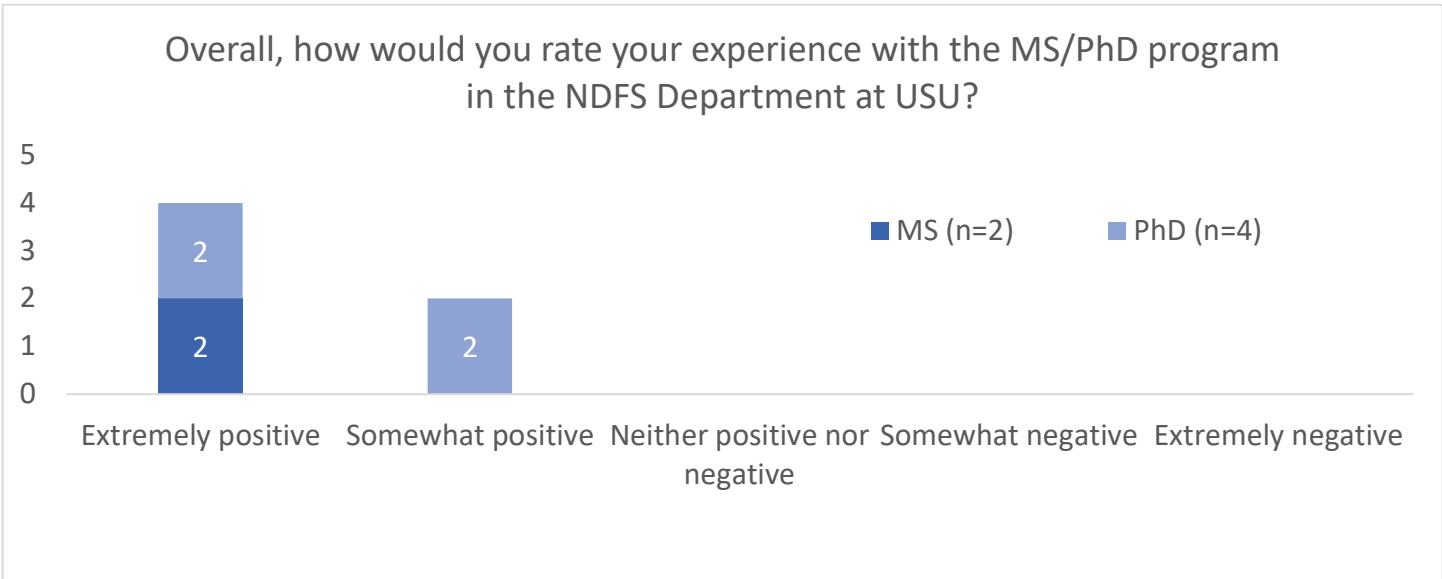
We continued to survey our graduating students to obtain feedback on our programs. This feedback will be used to help inform program improvement efforts and provide an indirect measure of student achievement of program learning outcomes. We have kept the same 10 questions as previous years. These questions ask about program satisfaction, perception of career preparation, and student self-evaluation of their achievement of the learning objectives. The anonymous survey was distributed via email to all MS and PhD graduates over Fall 2021- Summer 2022, and students who completed it received an aggie ice-cream voucher.

Response rate

We achieved a 100% response rate in PhD graduates (4/4) and in MS graduates (2/2). Some questions had lower response rates, including the open-response questions, and the last few questions of the survey. This is not uncommon in survey research.

Quantitative Results

In 2022, 100% of graduating MS/PhD students had a positive experience with the NDFS MS/PhD program (6/6) and 100% felt that the degree program prepared them well for their future career (6/6). These results were similar to the ones achieved in 2021.



When asked to self-evaluate how well they achieved program learning outcomes, all of the students indicated that they had achieved the stated learning outcomes. All of the respondents rated their mastery of the subject matter that as comparable (n=1) to or above (n=5) that of peers from other institutions. After completing the MS/PhD program, 100% (6/6) of students reported that they are able to scholarly activities in an ethical manner. Finally, all students (6/6) agreed that they had conducted, presented, and defended a body of knowledge (for MS) or significant contribution to knowledge (PhD) during their program.

These results were presented to the faculty and discussed. While pleased with positive responses, faculty are aware of the small amount of data and the fact that self-report is an indirect measure of student outcomes. For the full 2022 exit survey results, please see appendix.

Qualitative Results

Exiting students listed a variety of things that had a positive impact on their time in the MS/PhD program. The top responses included high quality of faculty and staff and the professional opportunities they received while they were here. Other responses included the relationship with the major professors, research opportunities/experience, and coursework.

The 2022 graduates also provided suggestions for future program improvement. Most of these were general and focused on improving communication and advising. A couple of students mentioned improvements to specific facilities including training lab, kitchen, and graduate student area. One student requested more interaction between food science, dietetics, and nutrition students as well as more student-faculty interaction. Finally, there were suggestions to improve program content, including more classes, course updates, and less semesters of seminar for PhD70 students. (See appendix for full student responses.)

[Annual review meeting](#)

For the past 5 years, the program has required a yearly meeting of MS/PhD students' graduate committees to evaluate student progress. The committees are instructed to complete an annual review form to track progress and document the meeting, any areas of concern, and corrective actions prescribed by the committee. However, rate of compliance with this rule has been low. In Fall 2020-Summer 2021, 4 review forms were submitted.

Annual Review Form Submission Fall 2020-Summer 2021	
2018	30%
2019	23%
2020	17%
2021	29%
2022	25%

In summer 2021, graduate faculty met to discuss the low rate of compliance with this rule. After much discussion, the faculty decided on the following actions: educating (or re-educating) faculty and graduate students about rule and reasons for it at orientation and faculty meetings, revising the annual review form, and using reminders from the GPC.

Progress on these changes during the past year include:

- This requirement was discussed at orientation and during a faculty meeting. The form and procedure were included in the graduate student handbook, which students were asked to review and return a signature form indicating that they had done so.
- The form was revised to make it easier to use and more useful to students, advisors, and committees. It will also provide a direct measure of student progress on program learning objectives for program assessment.
- The form was presented to faculty, revised with faculty feedback, and approved via a faculty vote. It will be used starting in Spring 2022.
- The GPC sent several reminders to faculty and students.

The goal is for these meetings and documentation to be universal, and these changes have not so far improved the rate. Informal discussion with members of the graduate faculty have indicated that generally

students are meeting with their committees, but not turning in the form. This data will be presented to faculty, and our course of action will be re-evaluated in Spring 2023.

The annual review form tracks important milestones, research progress, and documents if any corrective action is required. No problems with student progress or achievement of milestones was documented, however there was significant missing data.

Annual Review Form Data Fall 2020-Summer 2021						
Number of forms completed	Number from each degree program	Student's Progress is Satisfactory?	Research is showing satisfactory progress?	Research Proposal Inadequate?	Unable to pass comprehensive exam?	Corrective action is required?
5	PhD 70—1 PhD 48—1 MS—2	Yes—3 Missing—1	Yes—2 Missing—2	No—2 N/A—2	No—1 N/A—3	No—1 Missing—3

[Dissertation rubric forms](#)

Starting in Spring 2021, the NDFS faculty adopted a rubric for dissertation defenses and for MS thesis defenses. In Fall 2020-Summer 2021 we had 4 PhD Dissertation defenses and 2 MS Thesis defenses, with all student meeting or exceeding expectations. See Appendix for full rubric data.

PhD Program Assessment Summary Fall 2021-Summer 2022		
	Direct Evidence	Indirect Evidence
Learning Objective: Demonstrate mastery of subject material.	Defense rubrics <i>Quality of Scholarly Work</i> section: <ul style="list-style-type: none"> 100% met or exceeded expectations on “Mastery of fundamental knowledge in the field” 100% met or exceeded expectations on “Ability to access and integrate information . . . ” Defense Rubric <i>Breadth and Depth of Knowledge</i> section: <ul style="list-style-type: none"> 100% met or exceeded expectations on “Defends, clarifies, and expands upon written dissertation with further evidence and argument” 100% met or exceeded expectations on “Demonstrates knowledge of dissertation subject, primary sources, and background scholarship . . . ” 	Spring 2021 Exit survey: 100% of students rated their mastery of subject material as above average as compared to peers from other institutions (n=4, far above average=1, somewhat above average=3) All students pass comprehensive exam, or complete conditions needed for pass All students design and complete their plan of study, approved by their committee, earning grades of C or better
	“Produce . . .significant contribution” from defense rubric <i>Contribution to Discipline</i> : <ul style="list-style-type: none"> 100% met or exceeded expectations on “Impact of research on the field” 100% met or exceeded expectations on “Publication potential” “Present” from defense rubric <i>Quality of Presentation</i> section: <ul style="list-style-type: none"> 100% met or exceeded expectations on “Presentation design” 100% met or exceeded expectations on “Content and organization” 100% met or exceeded expectations on “Presenter skills” 	Exit survey: 100% of students agreed that they have done this as part of their degree program. (n=4, strongly agree=3, somewhat agree=1) All students design, present, and defend their research proposal, evaluated by committee without a rubric

PhD Program Assessment Summary Fall 2021-Summer 2022

	Direct Evidence	Indirect Evidence
	<p>“Defend” from defense rubric <i>Response to Questions</i> section:</p> <ul style="list-style-type: none"> • 100% met or exceeded expectations on “Directly and correctly answers the examiner’s questions” • 100% met or exceeded expectations on “Shows evidence of critical thinking and an awareness of the limits of his or her knowledge” <p>From defense Rubric <i>Breadth and Depth of Knowledge</i> section:</p> <ul style="list-style-type: none"> • 100% met or exceeded expectations on “Defends . . . written dissertation with further evidence and argument” 	
Learning Objective: Be able to conduct scholarly activities in an ethical manner.		Exit survey: 100% of students agree that they are able to do this (n=4, definitely yes=4)

MS Program Assessment Summary Fall 2021- Summer 2022

	Direct Evidence	Indirect Evidence
Learning Objective: Demonstrate mastery of subject material.	Defense rubrics <i>Quality of Scholarly Work</i> section: <ul style="list-style-type: none"> • 100% met or exceeded expectations on “Mastery of fundamental knowledge in the field” • 100% met or exceeded expectations on “Ability to access and integrate information . . . “ Defense Rubric <i>Breadth and Depth of Knowledge</i> section: <ul style="list-style-type: none"> • 100% met or exceeded expectations on “Defends, clarifies, and expands upon written thesis with further evidence and argument” • 100% met or exceeded expectations on “Demonstrates knowledge of dissertation subject, primary sources, and background scholarship . . .” 	Spring 2021 Exit survey: 100% of students rated their mastery of subject material as average or above average as compared to peers from other institutions (n=2, somewhat above average=1, average=1) All students design and complete their plan of study, approved by their committee, earning grades of C or better
	“Produce . . .significant contribution” from defense rubric <i>Contribution to Discipline</i> : <ul style="list-style-type: none"> • 100% met or exceeded expectations on “Impact of research on the field” • 100% met or exceeded expectations on “Potential for research dissemination via publication or presentation.” 	Exit survey: 100% of students agreed that they have done this as part of their degree program. (n=2, strongly agree=2)
Learning objective: Conduct, present, and defend a body of research conducted during their program.	“Present” from defense rubric <i>Quality of Presentation</i> section: <ul style="list-style-type: none"> • 100% met or exceeded expectations on “Presentation design” • 100% met or exceeded expectations on “Content and organization” • 100% met or exceeded expectations on “Presenter skills” 	All students design, present, and defend their research proposal, evaluated by committee without a rubric
	“Defend” from defense rubric <i>Response to Questions</i> section: <ul style="list-style-type: none"> • 100% met or exceeded expectations on “Directly and correctly answers the examiner’s questions” • 100% met or exceeded expectations on “Shows evidence of critical thinking and 	All students conduct, present, and defend their thesis, evaluated by committee without a rubric

MS Program Assessment Summary Fall 2021- Summer 2022

	Direct Evidence	Indirect Evidence
	<p>an awareness of the limits of his or her knowledge”</p> <p>From defense Rubric <i>Breadth and Depth of Knowledge</i> section:</p> <ul style="list-style-type: none"> • 100% met or exceeded expectations on “Defends . . . written thesis with further evidence and argument” 	
Learning Objective: Be able to conduct scholarly activities in an ethical manner.		Exit survey: 100% of students agree that they are able to do this (n=2, definitely yes=2)

Faculty Response to Assessment Data

In the year of Fall 2020-Summer 2021 our main program goal was to continue our efforts to improve our program in response to assessment data. This data included that reported here, last year's report, feedback from the AAA office from previous years, and the R411 review from 2021. Our work, summarized here, was concentrated on communication of resources and requirements and improving program assessment.

[Communication of Resources and Requirements](#)

Similar to last year, one of our main findings from the exit survey, was a need for better communication of program and university resources and requirements to graduate students and faculty members. (This was also noted in the R411 review.) To continue to address this need we updated the program handbook, maintained the changes to fall orientation, and updated the program website.

Handbook

The [handbook](#) was updated by the GPC. The handbook contains details of program requirements, USU policies, academic and professional resources, a list of who to go to for answers about different issues, a list of potential courses for plan of studies, required forms, and optional forms. The handbook can be accessed online and was emailed to all graduate faculty and students.

<https://caas.usu.edu/ndfs/files/22-23-MS-PhD-Handbook-for-Orientation.pdf>

Orientation

This year we continued to require all currently enrolled graduate students to attend to make sure everyone clearly understood program requirements and resources available. We provided the handbook prior to orientation for students to review, to allow for most of the time in orientation to be spent on relationship building between students and faculty. Students were required to review the handbook and return a signed form indicating that they had received the handbook, reviewed the contents, and had their questions answered.

Website

The NDFS website is in the process of being updated to better communicate resources and requirements for our MS/PhD students. The [MS/PhD program website](#) has been updated to include information for new student orientation, important links, departmental forms, degree requirements, teaching, preparing for the defense, research emphasis areas, and wellness resources. <https://caas.usu.edu/ndfs/graduate-students>

[Assessment Plan](#)

A program assessment plan based on best practices from the AAA office was developed in Fall 2021, by the assessment sub-committee. This committee included membership from our various departmental disciplines: Dr. Katie Brown (dietetics), Dr. Carrie Durward (nutrition science), Dr. Sulaiman Matarnah (food science), and Dr. Marie Walsh (food science). In January of 2022, this plan was presented to the faculty in Spring 2022. The plan was revised based on faculty feedback, and was approved via faculty vote in Fall 2022.

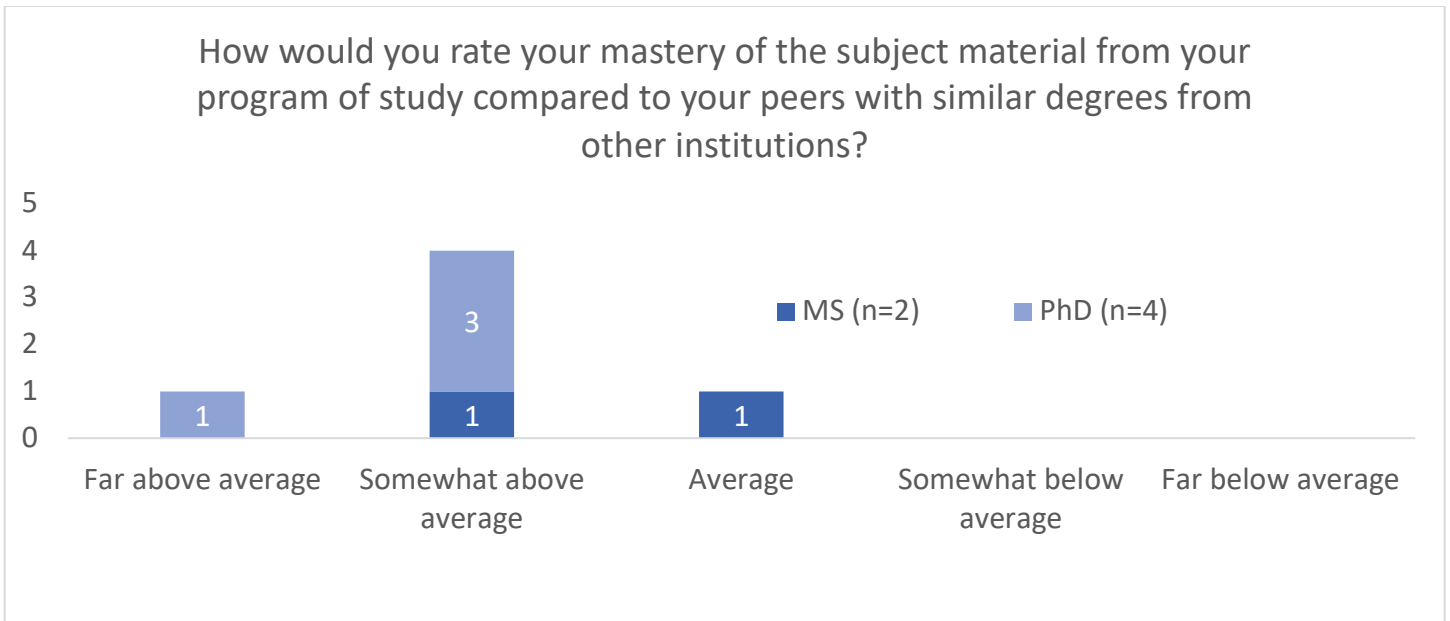
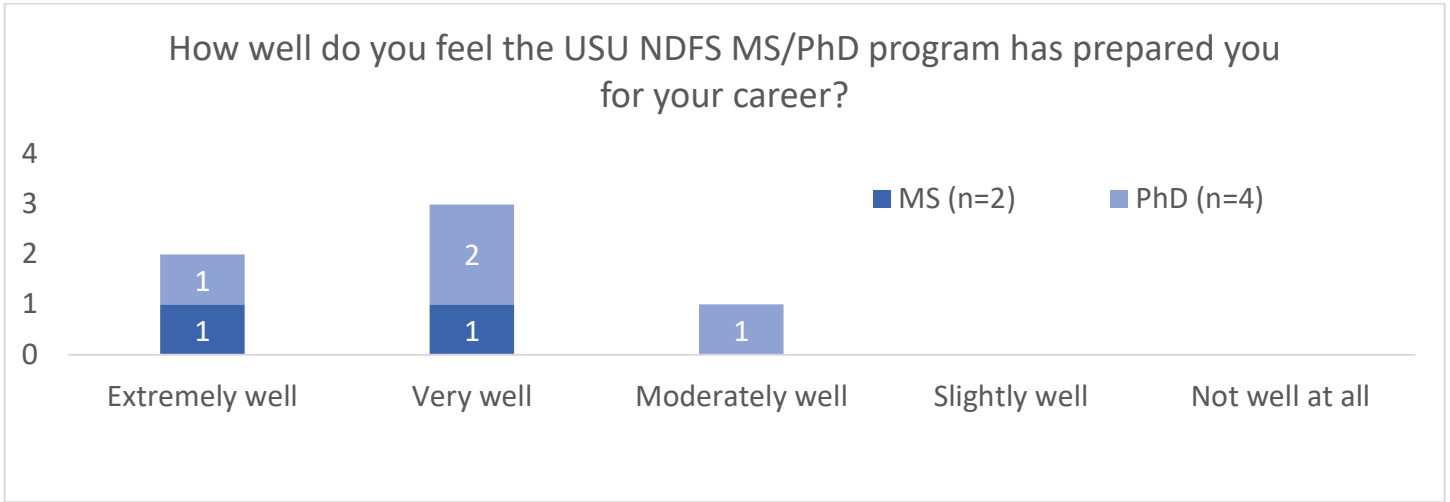
The revised assessment plan made the following changes:

- Program learning objectives were revised to meet best practices.
- The Annual Committee Meeting form was revised to directly evaluate and document student progress on achieving program learning objectives.
- The dissertation defense and MS thesis defense rubrics from the college were adopted.

A final piece of work for the coming year is to finalize and adopt the rubric we're developing for our comprehensive exams. This rubric will standardize exam evaluation and collect direct evidence of student learning for program assessment. A first draft of the document was drafted by a sub-committee with representation from both food science (Dr. Taylor Oberg and Dr. Prateek Sharma) and nutrition science (Dr. Carrie Durward and Dr. Heidi Wengreen). In the coming year we plan to present to the faculty, revise as needed, and vote to adopt.

Appendices

Spring 2022 Exit Survey Data



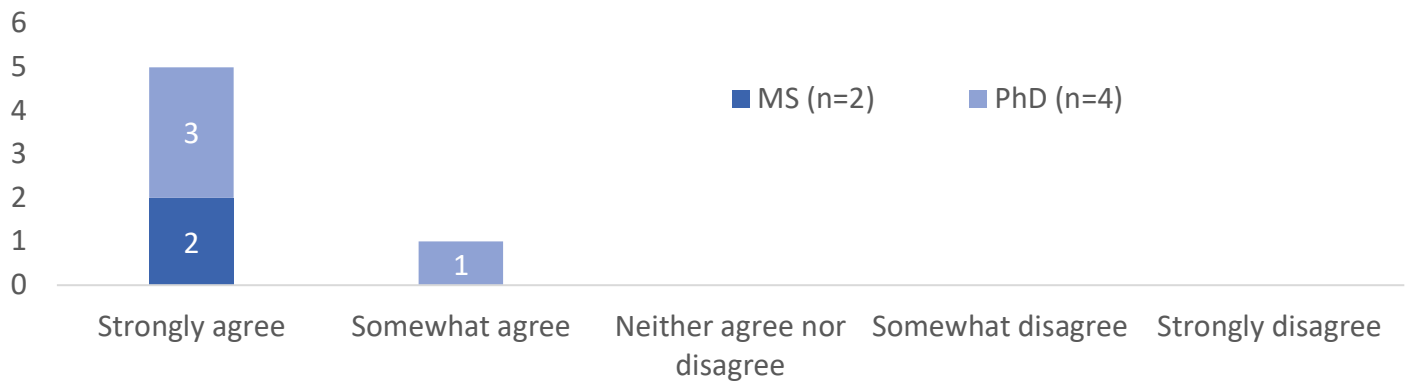
After completing the USU NDFS MS/PhD program do you feel that you are able to conduct scholarly activities in an ethical manner?



How much do you agree with the following statement?

For PhD: I have produced, presented, and defended an original significant contribution to knowledge.

For MS: I have conducted, presented, and defended a body of research.



Spring 2022 Graduate Student Exit Survey

Responses to question: Please tell us about 3 things that had a positive impact on your experience in the MS/PhD program at USU.

Themes	Quality of faculty and staff	Graduate coursework	Research experience	Academic/Professional opportunities	Major Professor	Other	
Student Responses	Excellent instructors	Education, classes, research experience		Product development competitions and opportunities	my relationship with my mentor professor. Dr. Martini really prepared me from the beginning helping me to understand what was required and how to accomplish it. As I had questions or concerns throughout my program she was always willing and ready to help	My peers in the department/now lifelong friends :)	
	Faculty			I loved being a part of the teaching process. I got to teach labs for two different courses.			
	Staff	education	Great research opportunities at NDFS		BUILD dairy is such a wonderful program. I felt very well connected to industry. I also felt like I learned so much by being able to be connected with student both from USU and other universities		Extremely supportive mentor. She was truly outstanding. Having a mentor that was encouraging, reliable/timely in feedback, and kind was the most meaningful contribution to my positive PhD experience.
	Great faculty/staff at NDFS	learning					

Spring 2022 Graduate Student Exit Survey

Responses to question: Please tell us about 3 things that you think we should try to improve for future students.

	Program Content	Community	Improvements to facilities	Communication/awareness	Faculty/Student Expectations
Student Responses	More options for classes. Many grad students who have done a bachelors degree in Food science don't have a lot of relevant courses left to take	More graduate and undergraduate student interactions between the nutrition, dietetics, and food science programs	Allocating funds to improve/renovate the shared training lab space and/or kitchen. In addition, allocate some funds to support programs that are struggling.	information dissemination	Stay on top of students so they graduate on time
	I felt that 4 semesters of the seminar was a little more than was necessary	Events that allow for students to interact with faculty/staff	Laboratory	Clear expectations and deadlines	Better guidance from advisor
	I wonder if writing a grant would be an idea to try for the comprehensive examination instead of a systematic review		Student Area	Information on forms and requirements	advising
	course updates				

Dissertation Rubric Data

Fall 2020-Summer 2021 Dissertation Documents: Percent of students rated at Exceeded, Met, and Did not meet Expectations*					
		Does not meet expectations	Meets expectations	Exceeds expectations	Missing
Quality of the Scholarly Work	Mastery of fundamental knowledge in the field		50%	50%	
	Ability to access and integrate information into a cohesive overview of current knowledge. Ability to critically evaluate the meaning, value and contribution of published literature in the field.		50%	50%	
	Imagination and originality of thought		75%	25%	
	Ability to design and implement an appropriate collection and analysis of data.		50%	50%	
	Ability to draw reasoned conclusions from a body of knowledge		25%	75%	
Contribution to Discipline	Impact of research on the field		50%	50%	
	Publication potential		25%	75%	
Quality of Writing	Skilled at scientific/technical writing		100%		
	Organization, sentence structure, grammar, mechanics and spelling		25%	75%	
Overall assessment of Dissertation Document			50%	25%	25%

*This data comes from 13 rubrics collected from committee members at 4 student defenses.

Fall 2020-Summer 2021 Dissertation Defense Presentations: Number that Exceeded, Met, and Did not meet Expectations*					
		Does not meet expectations	Meets expectations	Exceeds expectations	Missing
Quality of Presentation	Presentation design		100%		
	Content and organization		75%	25%	
	Presenter skills		75%	25%	
Breadth and Depth of Knowledge	Defends, clarifies, and expands upon written dissertation with further evidence and argument		100%		
	Demonstrates knowledge of dissertation subject, primary sources, and background scholarship; demonstrates ability to synthesize dissertation topic with broader topics in the discipline		25%	75%	
Quality of Responses to Questions	Directly and correctly answers the examiner's questions		25%	75%	
	Shows evidence of critical thinking and an awareness of the limits of his or her knowledge		50%	50%	
Overall assessment Oral Defense			50%	25%	25%

*This data comes from 13 rubrics collected from committee members at 3 student defenses.

[Thesis Rubric Data](#)

Fall 2020-Summer 2021 MS Thesis Documents: Percent of students rated at Exceeded, Met, and Did not meet Expectations*					
		Does not meet expectations	Meets expectations	Exceeds expectations	Missing
Quality of the Scholarly Work	Mastery of fundamental knowledge in the field			100%	
	Ability to access and integrate information into a cohesive overview of current knowledge			100%	
	Ability to articulate clear research problem, objectives and/or hypothesis			100%	
	Ability to implement an appropriate collection and analysis of data			100%	
	Ability to draw reasoned conclusions from a body of knowledge			100%	
Contribution to Discipline	Impact of research on the field			100%	
	Potential for research dissemination via publication or presentation			100%	
Quality of Writing	Skilled at scientific/technical writing			100%	
	Organization, sentence structure, grammar, mechanics and spelling			100%	
Overall assessment of Thesis Document				100%	

*This data comes from 2 rubrics collected from committee members at 1 student defenses. Note that rubrics for another MS student were completed and turned in, but were unfortunately lost during a move.

Fall 2020-Summer 2021 Dissertation Defense Presentations: Number that Exceeded, Met, and Did not meet Expectations*					
		Does not meet expectations	Meets expectations	Exceeds expectations	Missing

Quality of Presentation	Presentation design			100%	
	Content and organization			100%	
	Presenter skills			100%	
Breadth and Depth of Knowledge	Defends, clarifies, and expands upon written thesis with further evidence and argument			100%	
Quality of Responses to Questions	Directly and correctly answers the examiner's questions			100%	
	Shows evidence of critical thinking and an awareness of the limits of his or her knowledge			100%	

*This data comes from 2 rubrics collected from committee members at 1 student defenses. Note that rubrics for another MS student were completed and turned in, but were unfortunately lost during a move.