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2021

FDST 403/803 – Food Quality Assurance

Byron D. Chaves

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PEER REVIEW OF TEACHING PROJECT
2020-2021 First Year Program Benchmark Portfolio

FDST 403/803 – Food Quality Assurance

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ABSTRACT:

Food Science and Technology (FDST) 403: Food Quality Assurance is an upper level required course for FDST undergraduate majors at the University of Nebraska-Lincoln. The course covers food safety regulations, food safety management systems, and statistical process control applied to food safety and quality in food manufacturing. This Peer Review of Teaching Portfolio documents the course analysis and reflection for spring 2021. Two mid-semester student course evaluations were performed on March 1 and April 5, the lecture immediately after the midterm exams. Anonymous paper and online surveys were filled out during class time asking students to reflect on the course using the question "What has gone well?" as the driver. Students' feedback helped make changes throughout the semester that positively impacted student learning. Overall, the students performed satisfactorily in the course and significantly better than the 2020 cohort. Course reflection sessions were of great value to collect student feedback and have direct and honest conversations with the students. Additionally, intentionality in assignments and evaluations was a major component of the program. Lastly, the identified opportunities for improvement included course materials and tools and clarifying course expectations.

Keywords: food safety, food quality, course evaluation, class reflection, intentionality

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OBJECTIVES OF THE COURSE PORTFOLIO:

The Peer Review of Teaching Project provides a model to document, assess, and make teaching and learning visible. The goal of this portfolio is to document a reflective and thoughtful process to improve the teaching and learning effectiveness of FDST 403: Food Quality Assurance using data and observations collected during spring 2021. The portfolio will be added to my promotion and tenure dossier and will serve as the foundation for improvement of the Food Science and Technology curriculum along with other completed projects within the Department.

I am very interested in curriculum development, assessment, and improvement. The sessions I participated in during the Program were of great value to initiate that insightful process of evaluating my teaching practices with the aim of improving effectiveness. The values I prioritize in this course are:

- Accountability,
- Communication,
- Inclusivity,
- Respect,
- Teamwork, and
- Tolerance

COURSE DESCRIPTION:

Background

FDST 403: Food Quality Assurance is a required course for Food Science and Technology (FDST) as well as Food Technology for Companion Animals (FTCA) undergraduate majors at the University of Nebraska-Lincoln. The course introduces students to quality-related issues as they pertain to the manufacturing, processing, and/or testing of foods, with a major emphasis on food safety regulations, food safety management systems, and statistical process control. This is a terminal course and is not a pre-requisite for any other courses within the program. Because of the location of the course prerequisites within the program curriculum, only junior and senior students may take this course. A handful of non-FDST students from other majors within the College of Agricultural Sciences and Natural Resources (CASNR) typically take this class, particularly Animal Science and Integrated Sciences students. Additionally, a few graduate students register for this class every semester as FDST 803.

The current pre-requisites for this course are FDST 205: Food Composition and Analysis and STAT 218: Introduction to Statistics. However, the ideal pre-requisites should be FDST 405: Food Microbiology along with the introductory statistics course. This course is populated mostly by juniors and seniors but if the pre-requisites were to change, it would be mostly seniors taking this class. The challenges to change the desired background courses are many, including the fact that the course is offered only in the spring semester as well as logistics issues with a 3+1 program that the Department has with a Chinese university, where students take this course as juniors and come to Nebraska for their last year to take multiple classes, including the ideal pre-requisite: Food Microbiology. Because of the fairly lax pre-requisites for this course, students come into 403 without fundamental understanding of how the food industry works, except for a handful of students that have done summer internships in food companies during their sophomore and/or junior years. Besides vocalizing these concerns to the Undergraduate Program Coordinator and to the Department Head, there are no active efforts to change the pre-requisites of the course, which will in turn, only allow for marginal improvements in the overall experience that students may gain from this class.

Course Goals

Food quality and safety assurance courses belong in the core curriculum of every food science program. The overall goal of this class is to gain an understanding of how the food manufacturing industry manages food safety and quality. Because this is an upper-level FDST class, students will be heavily evaluated on their written and oral technical communication skills which they will need to perform satisfactorily in the food industry. At the end of a successful semester, students will:

1. Recognize the major laws and regulations that govern food safety in the United States;
2. Identify biological, chemical, and physical hazards associated with foods and the food system, their transmission and control; and
3. Select appropriate statistical control tools to assess food safety and quality.

At the minimum, students will be able to articulate, both written and orally, the differences in food regulations between FDA-inspected foods and USDA-inspected foods and will be able to justify the selection of specific food safety hazards associated with particular commodities. Additionally, students should be able to select graphic tools for statistical process control and interpret the data obtained from such tools using relevant food safety and quality examples. For instance, use of microbiological indicators for process control and statistical performance of a process to minimize quality defects, among others. Overall, this course will contribute to the development of critical thinking skills in the context of food safety and quality by assessing application and not only knowledge. For a detailed explanation of course learning objective and outcomes, refer to Appendix A – Spring 2021 Syllabus.

Rationale for Course Selection

I have been teaching this course since spring 2018, soon after I arrived at UNL. During spring 2018 and 2019, I taught around 20% of the course and inherited the entire course in the spring of 2020 after the lead instructor retired in 2019. Since then, it has been my goal to redesign and update the content to make it relevant for students that choose careers in the food industry. I had an excellent Food Quality Assurance course when I was an undergraduate student, and it really made a different. Therefore, I have a personal goal of making my class useful to students. Beyond technical knowledge, this course has the potential to really shape and help develop analytical and critical thinking skills that no other course in the program has. As I work on improving the content and delivery of this course, I hope to transform it into a dynamic class with direct interaction with the food industry.

Key Goals of Completing the Course Portfolio

I plan to use my course portfolio to refine FDST 403 and for promotion and tenure files. I truly believe that this is an underutilized and underestimated course in my program. I inherited this important and required class after the same instructor had been teaching it for 17 years and, in my opinion, it needed to be updated. During my first semester as lead instructor (2020), I changed the course content and format significantly, updating the materials, providing current examples, and conducting evaluations using case studies instead of long essays. My goal now is to identify what I really want students to learn in this course as well as the best way for instruction and assessment. I am excited about the possibility of revamping this class and make it relevant to the students and the Department.

Course Portfolio Format

Broad overview of the entire course.

TEACHING METHODS, MATERIALS, AND ACTIVITIES:

Background
When I inherited the course and taught it entirely by myself in spring 2020, I used mostly lectures. Additionally, there were in-class discussions and short presentations led by students. I am not convinced that conventional lecturing is the best way to teach this course since my goal is to make it increasingly more practical. I taught it as a lecture because it was the easiest format to follow at the time with the amount of information I wanted to provide in the course. I am a firm believer in the use of case studies to assess knowledge and application. In spring 2021, I had hour examinations, quizzes, case studies, and a semester-long project for which students provided updates every few weeks and culminated with presentations before the final exam. Overall, this was a lot of work for the students and for myself, and I realized I need to reduce the length and depth of the assignments based on students' feedback and on the time I spent designing, grading, and providing comments to students.

Course Activities Outside of Class
I have not used many course activities outside of class other than traditional homework. However, this will change in spring 2022 where I will have several assigned readings, lectures, and videos that students will need to prepare for in-class discussions, case students, and quizzes. The use of outside resources will allow me to maximize the time spent in active discussion, reflection, and analysis of the course content. Additionally, a semester-long project will require students to meet via Zoom to work on their assigned project.

Course Materials
There is no textbook for this course. I do provide a list of books available through the University library system for free, and a list of complementary readings if students wish to expand their knowledge on a specific topic beyond what is covered in class. All Power Point presentations are made available to students in advance and all readings are posted on Canvas as well as any other materials, videos, etc. To maximize learning in this course, students should revise the class materials in advance as they may need them to actively participate in case studies and successfully respond to questions in quizzes. This semester, I switched to more students-led learning, where they had to come to class prepared to discuss and take a quiz instead of sitting down and listening to me lecturing. Some classes followed traditional lectures but incorporated more active learning activities during the semester.

Rationale for Selected Methods and Materials
Because I am new as the lead instructor for this course, I am still in trial-and-error mode. This is a very practical course where case studies and examples are drawn from regulatory and industry news, e.g., product recalls, foodborne disease outbreaks, regulatory enforcement by FDA and other agencies, and more. Starting in spring 2022, I will have much more time allocated to class discussions and oral presentations. I believe that the materials I provide to the students, along with recommended readings, lay a solid foundation to achieve my proposed learning objectives. By incorporating different assessment methods and a variety of evaluation tools, I am hopeful that students will find their learning style represented in the class and maximize their comprehension on the material.

Link to Broader Curriculum
This course is terminal in the sense that is not a pre-requisite for any other course in the program. Because of this, I cannot fully assess if the students are prepared well enough to be successful in a more advanced course. However, I have requested the syllabi of the pre-requisite courses to make sure that my expectations from students are in-line with the learning objectives of those courses and that I build on what they learned in their pre-requisites. Additionally, we are in the process of our academic program review and re-accreditation by the Institute of Food Technologists, the non-profit agency that accredits food science and technology programs in the U.S. and abroad. Under this review, we have a more

coordinated effort among faculty to make sure the courses align. One issue I have brought up to the faculty is that FDST 403 needs to cover too many of the essential learning outcomes required for accreditation, and that we need to better plan how to include some of those outcomes in other courses so that FDST 403 does not have such huge burden. This will remain a program core course, but I would like to alleviate some of the stress put in the course by distributing learning objectives in related courses across the curriculum.

ANALYSIS OF STUDENT LEARNING:

Assignments

The assignments in this course included quizzes, midterm and final exams, group activities, short and long oral presentations, and homework. The variety of assignments may capture various student learning styles and may make the course more interesting by providing different opportunities for learning and application of the material. Overall, quizzes and exams were the main drivers of student assessment, with homework and group projects representing only minor components of the total contribution to analysis and discussion.

Grades and Grade Trends

The frequency distribution of final student grades is shown in **Figure 1**. Overall performance among 13 students was satisfactorily, with four outstanding students receiving an A+ grade and three students at the lower end of the spectrum with B- grades. This was a change compared with spring 2020, where multiple students obtained D and C final grades. Ten students obtained a higher grade in the second midterm compared to the first exam, one remained constant, and two got substantially lower grades. Throughout the semester, the assignment with the most variability was the quizzes. There were 10 total quizzes during the semester, with various levels of performance, except for a few consistently excellent individuals. The quiz format varied from short to long answer to case studies and data interpretation. All in-class assignments were open book – class notes and printed materials, no access to electronic resources.

Figure 1: Grade distribution of students in FDST 403/803 – Spring 2021, n = 13

Analysis of Particular Assignments

One particular group assignment focused on developing a "Hazard Analysis and Critical Control Points" (HACCP) plan. A HACCP system is the most common food safety management system used in the food industry worldwide. This activity was assigned halfway through the semester and represented 20% of the students' total grade. Students had the opportunity to submit project updates before the final presentation. Two out of four groups submitted and requested feedback before oral presentation. The rubric for assessment is located in Appendix B. The grades for this project ranged from 80 to 95, where lower grades were mostly a response to the student's inability to answer questions and justify decisions

related to their project. Overall, I did not feel this was a useful assignment because I did not have the time to provide detailed comment and feedback to each group and to each student after their oral presentations. In general, I graded very laxly because the expectations were not clearly laid out. It is likely that I will eliminate this assignment in future years.

This portfolio does not include examples of student work. However, the difference between a "good" and a "deficient" project lied mostly on the oral presentation component of the HACCP plan. Written documents were adequate, including reference and technical sources. During the oral presentations, it was evident that one or two students in each of the four groups was not prepared, and in contrast, one student was always the leading voice in responding questions and driving the discussion. Some of these students already had experience in HACCP, whether it was from other courses, or by practical industry exposure. Students without extensive food science background, particularly those majoring in Integrated Science, struggled to complete and present their work.

COURSE REFLECTION:

Course Evaluation

Two class periods were allocated for course evaluation and discussion during the semester. Both sessions were the class immediately after the midterm exams: March 1 and April 5. During this class, I asked the question "What has gone well in this course?" Students completed two surveys on each day, one paper and one electronic. Both surveys were anonymous. Appendix C shows the course evaluation survey. I decided to use an abbreviated version the University course evaluation survey from EvaluationKIT. See Appendix C. The results of each evaluation are shown below. Unfortunately, only two students completed the full survey at the end of the spring 2021 semester, so that information is not included in this portfolio.

Mid-Semester Evaluation 1 – March 1st

Appendix D shows the results of the first mid semester class reflection surveys – paper and electronic. The students' comments from the online survey were very encouraging and gave me a good indication of areas of improvement in the course. While most students agreed or strongly agreed with the statements, there are some areas of opportunity identified from the "neither agrees nor disagrees" category and below.

1. "I have opportunities to learn with and from other students in this course." This may indicate that for some students, the group activities are not being useful or promote their own learning. Engagement in group activities will be better assessed in future courses.
2. "The learning tools (e.g. course texts, notes, slides, videos, exams, projects, etc.) support my learning." I fully recognize that homework assigned during the first few weeks ultimately did not result in enhanced student learning, only in busy work. Therefore, there are assignments that will be eliminated for future years.
3. The "What could use some improvement?" summary table gives a great indication of areas of improvement that may make teaching and learning easier and more effective. The "Engagement in Assignment and Project" aspect is difficult during the first few weeks of the semester while students navigate expectations. The "Course Learning Materials and Tools" really surprised me because I was very happy with my presentations and supporting materials, but it something to consider as revamp for the future.

Mid-Semester Evaluation 2 – April 5th

Appendix E shows the results of the second course reflection surveys. Similarly, most students Agree or Strongly Agree with the statements. Some areas of improvement include:

1. "The learning tools (e.g. course texts, notes, slides, videos, exams, projects, etc.) support my learning." As pointed out above, this was surprising to me as I would think most students were satisfied with the course materials, but "Course Learning Materials and Tools" came up again as the top category that needs improvement. Therefore, this will be an area of focus for 2022.

One of the goals of the online survey for the second assessment was to determine if students feel there could be additional pre-requisites that may be helpful to perform better in this course. Without a doubt, the class that came up more often is Food Microbiology. As stated earlier in the portfolio, this is the ideal pre-requisite course for this course, but it is logistically difficult to implement such pre-requisite.

Course Successes

I am very happy with the way the course went during spring 2021. The comments from the open surveys were extremely positive and very encouraging that the way I am conducting the course is effective and useful for students. Another aspect I enjoyed was allocating actual class time for reflection. This made the students feel comfortable and assured them that I was working hard to make the course relevant and fun. Most students improved their grades after Exam 1 once expectations and grading style were clearer. I see these as my successes for this course.

Opportunities for Improvement

- Significantly less homework and group assignment. For spring 2022, I will dedicate much more effort to quizzes and case studies because those seem to drive learning much more effectively.
- The large HACCP project described earlier will be broken into four parts that students will submit every 3 to 4 weeks to spread it out evenly. In this way, I will be able to provide more feedback in a timely fashion.

Changes to the Syllabus and Delivery Methods

In 2021, I used a fluid syllabus model, where I indicated that students need to check the Canvas version of the syllabus every week to determine what will be covered the following week. I really enjoyed doing this and will continue with this model. One syllabus change I will make will be in the order of the topics covered so that the information needed to create a HACCP plan will be distributed throughout the semester and not just during a couple of weeks. This may allow students to feel more empowered to work on the project and approach me for guidance.

The students seemed to enjoy the lecture delivery method. My class are not static. Students work on case studies and present in class. I call them out by name, and they come to the board to defend their responses. I like this teaching method as it takes the students out of their comfort zone while remaining in a safe space. One thing I will change is the length of the exam (they need to be shorter) and will have the students review materials in advance of class to maximize learning during class time. Materials that I develop for my Food Safety Extension projects will be a great addition to FDST 403.

What I learned throughout the portfolio

My biggest lesson during Peer Review of Teaching and by creating this portfolio is that that reflection and intentionality are a must in the classroom. I learned so much by getting student feedback, that I am certain I will continue to do this as time passes. This is the only way to improve my teaching. Students want to be active participants but only if we know how to give them the tools for that. I enjoyed the Program very much, even though we could not meet in person for the discussions, and in spite of the challenges faced during the pandemic. I am happy I was able to teach in person during spring 2021 because I love interacting with students.

CONCLUSION:

This course portfolio is the outcome of the 2020-2021 Peer Review of Teaching Project for FDST 403: Food Quality Assurance. This is a required course for Food Science and Technology undergraduate students at UNL. Participating in this program allowed me to be more insightful and intentional with the course, the materials, the delivery, and the grading. There are many areas of improvement that the students helped me identify, and I am grateful for their input. I am looking forward to implementing changes in 2022 that will positively impact student learning and make my course more relevant and enjoyable.

APPENDICES

APPENDIX A:

FDST 403/803 – Spring 2021 Syllabus

Institute of Agriculture and Natural Resources
College of Agricultural Science and Natural Resources
Department of Food Science and Technology

FDST 403/803: FOOD QUALITY ASSURANCE, SPRING 2021

COURSE INFORMATION:

Instructor:	Byron Chaves, PhD., Assistant Professor
Contact Information:	Room 255 Food Innovation Center
	byron.chaves-elizondo@unl.edu
Meeting Time/Term:	M, W, F 11:00 to 11:50 am/Spring 2021
Location:	Room 275, Food Innovation Center
Course Load:	3 credit hours
Pre-requisites:	FDST 205 and STAT 218
Course Description:	Quality-related issues as they pertain to manufacturing, processing, and/or testing of foods, with a major emphasis on food regulations, food safety management systems, and statistical process control.
Office Hours:	By appointment only, in-person or via Zoom.
Textbooks:	None required. Dr. Chaves will post copies of lectures and reading materials on Canvas.

LEARNING OBJECTIVES:

1. Recognize the major laws and regulations that govern food safety in the United States;
2. Identify biological, chemical, and physical hazards associated with foods and the food system, their transmission and control;
3. Select appropriate statistical control tools to assess food safety and quality.

ATTENDANCE POLICY AND CLASS CIVILITY:

- Attendance is not mandatory; however, it is in your best interest to attend every class.
- Avoid being late for class. It is disruptive to the instructor and your fellow students.
- If the instructor is late for class, wait 10 minutes before leaving.
- Turn off all electronic devices and refrain from using non-academic web pages irrelevant to the course content.
- Class recording/videotaping is not allowed.
- Refer to https://registrar.unl.edu/academic-standards/policies/class-attendance/ for official university policies on attendance.

COMMUNICATION CHANNELS AND ETIQUETTE:

Canvas Inbox messaging is the official communication channel for this course. You are responsible for checking your Inbox daily. Follow professional email etiquette when communicating with your instructor and fellow students. Refer to https://www.unl.edu/gradstudies/connections/five-quick-tips-writing-effective-e-mails. Your huskers.unl.edu email account is your official University email account.

COURSE GRADING:

A+ (≥ 97.5%), **A** (≥ 92.5%), **A-** (≥ 90.0%), **B+** (≥ 87.5%), **B** (≥ 82.5%), **B-** (≥ 80.0%), **C+** (≥ 77.5%), **C** (≥ 72.5%), **C-** (≥ 70.0%), **D** (≥ 60.0%), **F** (≤ 59.9%). Grades will not be curved and extra credit will not be offered. Late assignments will not be accepted unless properly justified using University policies.

IFT STANDARDS AND ESSENTIAL LEARNING OUTCOMES:

IFT Standard	Upon completion of the required course work, students will:
Food laws and regulations	1. Recall government regulatory frameworks required for the manufacture and sale of food products. 2. Describe the processes involved in formulating food policy. 3. Locate sources of food laws and regulations. 4. Examine issues related to food laws and regulations.
Food safety: Hazards (physical, chemical, biological) associated with foods and the food system, their transmission and control.	1. Identify potential hazards and food safety issues in specific foods. 2. Describe routes of physical, chemical, and biological contamination of foods. 3. Discuss methods for controlling physical, chemical and biological hazards. 4. Evaluate the conditions, including sanitation practices, under which relevant pathogenic microorganisms are commonly controlled in foods. 5. Select appropriate environmental sampling techniques. 6. Design a food safety plan for the manufacture of a specific food.
Quality assurance: Principles of food quality control and assurance.	1. Define food quality and food safety terms. 2. Apply principles of quality assurance and control. 3. Develop standards and specifications for a given food product. 4. Evaluate food quality assessment systems (e.g. statistical process control).
IFT Standard	**Upon completion the required course work and additional research activities provided from the program, students will be able to:**
Data and Statistical Analysis: Collection, analysis, interpretation, and presentation of data.	1. Use statistical principles in food science applications. 2. Employ appropriate data collection and analysis technologies. 3. Construct visual representation of data.
Critical thinking and problem solving: Scientific reasoning through uncertainty in scientific and technical situations.	1. Locate evidence-based scientific information resources. 2. Apply critical thinking skills to solve problems. 3. Apply principles of food science in practical, real-world situations and problems. 4. Select appropriate analytical techniques when presented with a practical problem. 5. Evaluate scientific information.
Food Science Communication: Oral and written communication.	1. Write relevant technical documents. 2. Create oral presentations. 3. Assemble food science information for a variety of audiences.
Professionalism and leadership: Organization and project management; skills necessary to work and interact with individuals from diverse backgrounds.	1. Demonstrate the ability to work independently and in teams. 2. Discriminate tasks to achieve a given outcome. 3. Describe social and cultural competence relative to diversity and inclusion. 4. Discuss examples of ethical issues in food science.

UNDERGRADAUTE STUDENT COURSE EVALUATION:

Hour Examination 1	15.0 %
Hour Examination 2	15.0 %
Final Exam	20.0 %
Quizzes	20.0 %
Miscellaneous Assignments	10.0 %
HACCP Project	20.0%
Total	100.0%

Miscellaneous Assignments may include individual and group presentations, case studies, problem sets, and others.

GRADUATE STUDENT COURSE EVALUATION:

To develop and improve written technical communication skills, graduate students will be required to write a paper on a relevant topic assigned by the instructor. Both the instructor and the fellow graduate students will provide comments and feedback on the student's paper based on predetermined criteria.

Hour Examination 1	15.0 %
Hour Examination 2	15.0 %
Final Exam	20.0 %
Miscellaneous Assignments	20.0 %
HACCP Project	10.0 %
Technical Paper	20.0%
Total	100.0%

Miscellaneous Assignments for graduate may include individual and group presentations, quizzes, case studies, problem sets, and others.

ACADEMIC DISHONESTY:

All students and faculty should be familiar with the UNL Policy regarding Academic Dishonesty that may be found in the Student Code of Conduct (http://stuafs.unl.edu/dos/code). Academic honesty is essential to the existence and integrity of an academic institution. The responsibility for maintaining that integrity is shared by all members of the academic community (https://studentconduct.unl.edu/academic-integrity). Students who commit acts of academic dishonesty are subject to disciplinary action and are granted due process and the right to appeal any decision.

When a student is notified by an instructor of an alleged act of Academic Dishonesty, they should discuss the matter with the instructor to determine if redress is possible. If the instructor decides to move forward with the allegation of Academic Dishonesty and the result is a lower grade, the instructor shall make a report in writing of the facts of the case and the academic sanction imposed against the student to the instructor's Academic Unit Head and to the UNL Judicial Officer. Both the instructor and academic unit should maintain copies of the relevant documents on file for at least two years.

If the student feels that the allegations of the instructor regarding Academic Dishonesty, or the proposed penalty to be imposed, are unjust or not warranted, the student should contact their academic advisor and the Unit Head to discuss the matter. This process must be initiated within one month of the class grade assignment. The Unit should then initiate a review of the matter consistent with its written policy. If the Unit agrees with the Instructor that the evidence indicates that the student has violated the Academic Dishonesty policy, they should forward the documentation and paperwork to the CASNR Associate Dean for Student Affairs for review by the College. If the Unit determines that there is not sufficient evidence of Academic Dishonesty to warrant action against the student, the paperwork should be forwarded to the CASNR Dean with the student's name deleted so that there is a record of the incident, but no potential future bias toward the student.

Once received by the CASNR Associate Dean for Student Affairs, the file alleging student Academic Dishonesty should be considered by a Panel consisting of the CASNR Associate Deans. If the Panel decides that there is sufficient evidence to support the allegation of Academic Dishonesty made by the instructor, the student will be notified. If the student desires to appeal this decision, the file will be forwarded to the CASNR Dean for transfer to the UNL Judicial Officer.

ADA STATEMENT:
The University strives to make all learning experiences as accessible as possible. If you anticipate or experience barriers based on your disability (including mental health, chronic or temporary medical conditions), please let me know immediately so that we can discuss options privately. To establish reasonable accommodations, I may request that you register with Services for Students with Disabilities (SSD). If you are eligible for services and register with their office, make arrangements with Dr. Chaves as soon as possible to discuss your accommodations so they can be implemented in a timely manner. SSD contact information: 117 Louise Pound Hall Bldg.; 402-472-3787

MENTAL HEALTH AND WELLBEING RESOURCES:
UNL offers a variety of options to students to aid them in dealing with stress and adversity. Counseling and Psychological & Services (CAPS) is a multidisciplinary team of psychologists and counselors that works collaboratively with Nebraska students to help them explore their feelings and thoughts and learn helpful ways to improve their mental, psychological and emotional well-being when issues arise. CAPS can be reached by calling 402-472-7450. Big Red Resilience & Well-Being provides one-on-one well-being coaching to any student who wants to enhance their well-being. Trained well-being coaches help students create and be grateful for positive experiences, practice resilience and self-compassion, and find support as they need it. BRRWB can be reached by calling 402-472-8770.

EMERGENCY PROCEDURES:
Consult UNL emergency planning site for current emergency procedures: https://emergency.unl.edu/

Fire - Pull Alarm, Use Nearest Exit

Tornado - When Warning is Issued Take Shelter

Hazardous Material - Report

Bomb Threat - Report

Shooting - Run, Hide, Fight

Earthquake – Drop, Cover, and Hold on

Severe Weather - When Thunder Roars Get Indoors

Winter Weather - Be Prepared

Flooding - Turn Around Don't Drown

Gas Leak - Report

CLASS	DAY	DATE	TOPIC
1	M	01/25	Inclement Weather – Classes Cancelled
2	W	01/27	Introduction and Syllabus Discussion
3	F	01/29	Introduction to Food Laws and Regulations
4	M	02/01	Food Safety Management Systems
5	W	02/03	Food Safety Hazards – Physical
6	F	02/05	Food Safety Hazards – Chemical
7	M	02/08	Food Safety Hazards – Biological
8	W	02/10	Food Safety Hazards – Biological (cont.)
9	F	02/12	Risk Assessment and Hazard Analysis – INVITED SPEAKER
10	M	02/15	Food Product Adulteration
11	W	02/17	Regulatory Inspection and Enforcement
12	F	02/19	Recalls and Market Withdrawals
13	M	02/22	Exam 1 Review – Integrated Case Study
14	W	02/24	Student Presentations: Current Issues in Food Laws and Regulations
15	F	02/26	**EXAM 1 – Classes 1 through 14, inclusive**
16	M	03/01	Exam 1 Review and Mid-Semester Reflection
17	W	03/03	Cleaning and Sanitizing Webinar
18	F	03/05	Webinar Review/Current Good Manufacturing Practices
19	M	03/08	Current Good Manufacturing Practices (cont.)
20	W	03/10	FSIS Sanitation Performance Standards
21	F	03/12	HACCP (cont.)
22	M	03/15	HACCP (cont.)
23	W	03/17	FSMA – Preventive Controls for Human Food
24	F	03/19	FSMA – Preventive Controls for Animal Foods
25	M	03/22	FSMA – Produce Safety Rule INVITED SPEAKER
26	W	03/24	NO CLASS – I had a personal conflict.
27	F	03/26	HACCP Plan Assignment and Discussion
28	M	03/29	Exam 2 Review – Integrated Case Study
29	W	03/31	Student Presentations: Other FSMA Rules
30	F	04/02	**EXAM 2 – Classes 16 to 29, inclusive**
31	M	04/05	Exam 2 Review and Mid-Semester Class Reflection
32	W	04/07	Statistical Aspects of Food Safety Sampling – INVITED SPEAKER
33	F	04/09	Allergen Management Programs – INVITED SPEAKER
34	M	04/12	Environmental Monitoring Programs
35	W	04/14	Microbiological Indicators
36	F	04/16	Microbiological Indicators (cont.)
37	M	04/19	Microbiological Indicators (cont.)
38	W	04/21	COVID-19 and food safety
39	F	04/23	Statistical Process Control (cont.) INVITED SPEAKER
40	M	04/26	Statistical Process Control (cont.)
41	W	04/28	Student Presentations: HACCP Plan
42	F	04/30	Student Presentations: HACCP Plan/Brief Review for Exam 3
			FINAL EXAM – Comprehensive
			WEDNESDAY, MAY 5th 10 am to 12 pm

APPENDIX B: Oral Presentation Evaluation Rubric

ACE 2a: Demonstrate competence in communication skills by making oral presentations with supporting materials

	EXEMPLARY 4	ACCEPTABLE 3	DEVELOPING 2	DEFICIENT 1
Demonstrates capacity to develop a central message	Central message is compelling (precisely stated, appropriately repeated, memorable, and strongly supported.)	Central message is clear and consistent with the supporting material.	Central message is basically understandable but is not often repeated and is not memorable.	Central message can be deduced but is not explicitly stated in the presentation.
Demonstrates capacity to effectively organize the oral message	Organizational pattern (specific introduction and conclusion, sequenced material within the body, and transitions) is clearly and consistently observable and is skillful and makes the content of the presentation cohesive.	Organizational pattern (specific introduction and conclusion, sequenced material within the body, and transitions) is clearly and consistently observable within the presentation.	Organizational pattern (specific introduction and conclusion, sequenced material within the body, and transitions) is intermittently observable within the presentation.	Organizational pattern (specific introduction and conclusion, sequenced material within the body, and transitions) is not observable within the presentation.
Demonstrates capacity to identify and incorporate supporting material	A variety of types of supporting materials (explanations, examples, illustrations, statistics, analogies, quotations from relevant authorities) make appropriate reference to information or analysis that significantly supports the presentation or establishes the presenter's credibility/authority on the topic.	Supporting materials (explanations, examples, illustrations, statistics, analogies, quotations from relevant authorities) make appropriate reference to information or analysis that generally supports the presentation or establishes the presenter's credibility/authority on the topic.	Supporting materials (explanations, examples, illustrations, statistics, analogies, quotations from relevant authorities) make appropriate reference to information or analysis that partially supports the presentation or establishes the presenter's credibility/authority on the topic.	Insufficient supporting materials (explanations, examples, illustrations, statistics, analogies, quotations from relevant authorities) make reference to information or analysis that minimally supports the presentation or establishes the presenter's credibility/authority on the topic.

Demonstrates capacity to effectively deliver an oral message	Delivery techniques (posture, gesture, eye contact, and vocal expressiveness) make the presentation compelling, and speaker appears polished and confident.	Delivery techniques (posture, gesture, eye contact, and vocal expressiveness) make the presentation interesting, and speaker appears comfortable.	Delivery techniques (posture, gesture, eye contact, and vocal expressiveness) make the presentation understandable, and speaker appears tentative.	Delivery techniques (posture, gesture, eye contact, and vocal expressiveness) detract from the understandability of the presentation, and speaker appears uncomfortable.

APPENDIX C:
Mid Semester Course Evaluation – ==MARCH 1, 2021== and ==APRIL 5, 2021==

INTRUCTIONS: This assessment is voluntary but greatly appreciated for Dr. Chaves' teaching professional development. This survey is ***anonymous***. ==Thinking of the first six weeks of the semester==/==Thinking of the time between exams 1 and 2==, including any assignments and evaluations conducted ***so far***, please mark the box that best represents your opinion.

1. I feel welcome and respected.
   - ☐ Strongly Agree
   - ☐ Agree
   - ☐ Neither Agree nor Disagree
   - ☐ Disagree
   - ☐ Strongly Disagree

2. I understand course expectations and how my performance is evaluated.
   - ☐ Strongly Agree
   - ☐ Agree
   - ☐ Neither Agree nor Disagree
   - ☐ Disagree
   - ☐ Strongly Disagree

3. I feel challenged to learn a lot in this course.
   - ☐ Strongly Agree
   - ☐ Agree
   - ☐ Neither Agree nor Disagree
   - ☐ Disagree
   - ☐ Strongly Disagree

4. Course activities effectively promote my learning and interest in the subject.
   - ☐ Strongly Agree
   - ☐ Agree
   - ☐ Neither Agree nor Disagree
   - ☐ Disagree
   - ☐ Strongly Disagree

5. The learning tools (e.g. course texts, notes, slides, videos, exams, projects, etc.) support my learning.
   - ☐ Strongly Agree
   - ☐ Agree
   - ☐ Neither Agree nor Disagree
   - ☐ Disagree
   - ☐ Strongly Disagree

6. I am invited to be an active participant in my learning (either face-to-face or online).
   - ☐ Strongly Agree
   - ☐ Agree
   - ☐ Neither Agree nor Disagree
   - ☐ Disagree
   - ☐ Strongly Disagree

7. I have opportunities to learn with and from other students in this course.
   - ☐ Strongly Agree
   - ☐ Agree
   - ☐ Neither Agree nor Disagree
   - ☐ Disagree
   - ☐ Strongly Disagree

8. The feedback I receive on my work is useful to me for making changes and improvements.
   - ☐ Strongly Agree
   - ☐ Agree
   - ☐ Neither Agree nor Disagree
   - ☐ Disagree
   - ☐ Strongly Disagree

9. I know where to go for help in this course if, and when, I need it.
   - ☐ Strongly Agree
   - ☐ Agree
   - ☐ Neither Agree nor Disagree
   - ☐ Disagree
   - ☐ Strongly Disagree

10. I find communication with the instructor (e.g. office hours, email, Canvas, etc.) effectively supports my learning.
    - ☐ Strongly Agree
    - ☐ Agree
    - ☐ Neither Agree nor Disagree
    - ☐ Disagree
    - ☐ Strongly Disagree

11. What could use some improvement? Please check your top two boxes.
    - ☐ Inclusiveness
    - ☐ Course Performance Expectations
    - ☐ Course Challenge
    - ☐ Engagement in Assignments or Projects
    - ☐ Course Learning Materials and Tools
    - ☐ Active Learning Opportunities
    - ☐ Quality Interactions with Students
    - ☐ Timely and Useful Feedback for Improvement
    - ☐ Support
    - ☐ Instructor Communication
    - ☐ Other

THANK YOU FOR COMPLETING THIS SURVEY!

APPENDIX D: Results from first Mid-Semester Evaluation – March 1ˢᵗ, 2021 (n = 13)

a. <u>Anonymous, in-class paper survey</u>

QUESTION	Strongly Agree	Agree	Neither Agree Nor Disagree	Disagree	Strongly Disagree
I feel welcome and respected.	3 (23.1%)	10 (76.9%)	0 (0.0%)	-	-
I understand course expectations and how my performance is evaluated.*	5 (41.7%)	6 (50.0%)	1 (8.3%)	-	-
I feel challenged to learn a lot in this course.	6 (46.2%)	5 (38.5%)	2 (15.4%)	-	-
Course activities effectively promote my learning and interest in the subject.	8 (61.8%)	4 (30.8%)	1 (7.7%)	-	-
The learning tools (e.g. course texts, notes, slides, videos, exams, projects, etc.) support my learning.	7 (53.8%)	4 (30.8%)	2 (15.4%)	-	-
I am invited to be an active participant in my learning (either face-to-face or online).	8 (61.5%)	3 (23.1%)	1 (7.7%)	1 (7.7%)	-
I have opportunities to learn with and from other students in this course.	5 (38.5%)	5 (38.5%)	3 (23.1%)	-	-
The feedback I receive on my work is useful to me for making changes and improvements.	8 (61.5%)	4 (30.8%)	1 (7.7%)	-	-
I know where to go for help in this course if, and when, I need it.	7 (53.8%)	6 (46.2%)	0 (0.0%)	-	-
I find communication with the instructor (e.g. office hours, email, Canvas, etc.) effectively supports my learning.	7 (53.8%)	5 (38.5%)	1 (7.7%)	-	-

* n = 12

What could use some improvement? (Respondents = 12)	Frequency
Engagement in Assignments or Projects	5
Course Learning Materials and Tools	5
Course Performance Expectations	4
Active Learning Opportunities	2
Quality Interactions with Students	2
Course Challenge	1
Timely and Useful Feedback for Improvement	1
Support	1
Instructor Communication	1
Other (not specified)	1
Inclusiveness	0

b. Anonymous, in-class online survey [Verbatim responses]

1. What has gone well in this course so far in the semester?
- This course is fine although the course material is too much.
- Good, I learned a lot from this course.
- The lectures are very informative.
- Mostly everything went very well. The quiz definite help me engage in the class or review the old material before coming to the class.
- Practical based thinking.
- Everything has gone well. I think you are a great communicator and are very knowledgeable.
- The quality of content has been really good in this course. Additionally, Dr. Chaves is very knowledgeable in this field which serves as a great resource for the class.
- I would have to say that the quizzes have gone well so far this semester.
- Lectures, assignments, in-class questions
- The teaching methods are very effective. Also, the use of case studies helps me really well with grasping the course content.
- Feel like I'm learning and understanding the material at a deeper level as opposed to memorizing
- I appreciate the in-class discussion, whether it is volunteered or instigated by the professor. It drives engagement and practice of our understanding of the material, beginning to bridge the knowledge we learn in class to a real-world application.
- The material is presented really well and the class is open for discussion creating a fun environment.

2. What suggestions do you have that may help improve the quality of this course for the rest of the semester?
- Quizzes after guest lectures should be done during the following class. The risk assessment lecture was not easy to be understood.
- Could you add a portion of multiple choice questions in exam? Too many short answer questions really give me a headache. And the exam time is little bit tight also.
- Sometimes the quizzes are over the information we learned in class that day. It doesn't give me enough time to absorb the information before taking the quiz. If possible, I'd appreciate having time between the lecture and the quiz so I can review the slides. I feel the quizzes have not been representative of my learning.
- Ask student by name to answer question in class? This will have them pay attention in the class. Maybe extra point opportunity by assigning extra homework.
- I would suggest adding recorded lectures for people who may not be able to attend a class session. I also would maybe suggest a zoom option for those same people who can't attend in person for a session or may have to have medical leave.
- There is a lot of content, all meaningful and important, however, it is taught at a very fast pace. I would suggest slowing down a little bit when teaching, just so we have a chance to keep up with the content. Otherwise, the class is great so far!
- The powerpoints with the information that we go over could be changed up a little bit, I feel like it is difficult to take notes off of the PowerPoints.
- Maybe take away homework instead of in person quizzes. Take away homework encourages me to do research on new things
- For graduate students, I am still a little confused on the development of the review paper. This maybe because we have not yet gone through 1-on-1 critique for components of the paper, and that would assuage any concern I may have.

- Discussion over assignments and presentations would be helpful, also changing the groups for the next project.

c. Anonymous, in-class paper survey

QUESTION	Strongly Agree	Agree	Neither Agree Nor Disagree	Disagree	Strongly Disagree
I feel welcome and respected.	9 (75%)	3 (25.0%)	-	-	-
I understand course expectations and how my performance is evaluated.	8 (66.7%)	3 (25.0%)	1 (8.3%)	-	-
I feel challenged to learn a lot in this course.	5 (41.7%)	3 (25.0%)	3 (25.0%)	1 (8.3%)	-
Course activities effectively promote my learning and interest in the subject.	4 (33.3%)	6 (50.0%)	1 (8.3%)	1 (8.3%)	-
The learning tools (e.g. course texts, notes, slides, videos, exams, projects, etc.) support my learning.	3 (25.0%)	7 (58.3%)	2 (16.7%)	-	-
I am invited to be an active participant in my learning (either face-to-face or online).	7 (58.3%)	4 (33.3%)	1 (8.3%)	-	-
I have opportunities to learn with and from other students in this course.	5 (41.7%)	6 (50.0%)	1 (8.3%)	-	-
The feedback I receive on my work is useful to me for making changes and improvements.	8 (66.7%)	4 (33.3%)	-	-	-
I know where to go for help in this course if, and when, I need it.	9 (75%)	3 (25.0%)	-	-	-
I find communication with the instructor (e.g. office hours, email, Canvas, etc.) effectively supports my learning.	8 (66.7%)	3 (25.0%)	1 (8.3%)	-	-

What could use some improvement? (Respondents = 12)	Frequency
Course Learning Materials and Tools	5
Engagement in Assignments or Projects	3
Timely and Useful Feedback for Improvement	3
Course Performance Expectations	2
Active Learning Opportunities	2
Quality Interactions with Students	2
Course Challenge	2
Other (not specified)	1
Support	0
Instructor Communication	0
Inclusiveness	0

d. <u>Anonymous, in-class online survey [Verbatim responses]</u>

1. What has gone well in this course since Exam 1?
− The projects have gone well since exam 1
− Teaching style, exam length/content, quizzes, material
− The communication of grades and assignments has been a lot better
− Lectures, guest lectures
− Pretty good, I learned a lot from this course.
− Improved studying methods as well as better understanding of the material
− I feel most everything has gone well since exam 1.
− The class teaching methods were excellent. I very much liked the case studies, and their correlation to the real world experience.
− Exam study guide, quizzes
− I like lectures and some science based materials - laws not so much
− We have examined the parameters for proper food safety measures. In particular, we broke down the regulatory methods taken across all facets of the food industry (food products, food production/manufacture/processing, product labeling and marketing, and international trade limitations).

2. What other courses have been useful to perform well in FDST 403/803?
− My HACCP certification course has prepared me well to perform in this course.
− FDST 405, ASCI 210
− Food Microbiology
− I have not taken Food Microbiology but that would have been beneficial to take beforehand
− Food microbiology, Statistics, Food Comp & Analysis
− Food microbiology
− Microbiology, statistics
− This class has provided framework for other classes that I'm in. However, I have not taken food microbiology, but I'm sure that class would help with this class and vice versa.
− Food Microbiology course
− Food micro to some extent
− Food Microbiology, Carbohydrates, HACCP Short Course Training

3. Are there any courses you would suggest as pre-requisites for FDST 403/803 that would help maximize learning opportunities in this course?
− Food microbiology would help as a prerequisite for this course
− I think any course that gives a basic understanding of the food industry helps maximize learning outcomes
− Food Microbiology
− Food Microbiology
− No
− Food microbiology, statistics
− N/A
− I feel that stats 218 is enough of a prerequisite for this class.
− Food science 131.
− I don't think there need to be a prerequisite class
− I don't know, but food micro is okay
− Food Microbiology and HACCP Training, with priority being in Food Microbiology.

4. What suggestions do you have that may help improve the quality of this course in the future?

- Making the PowerPoints a little easier to digest during lecture would help improve the quality of the course in the future.
- I suggest encouraging the class to speak more. The majority of the class is silent most of the time with only a couple students speaking up when questions are asked.
- Recognizing that some of the assignments are pretty large and require a lot of work so not overloading students
- More activities/ case studies during the class time
- None.
- We can have more group discussion in the future.
- N/A, I think the course is well organized and structured in a way that optimizes learning
- Possibly offer a recorded session so if someone has an emergency or can't make it to class, they won't miss out on important information.
- I would suggest that Quizzes are planned ahead because it hard for me to take notes and follow the lecture at the same time.
- Homework and other study material
- Provide more case studies, or go through real world examples. Another method could be having groups examine "real-world" examples to solve an issue regarding food safety/regulation after learning the material in class. However, this may be implemented as a laboratory, 1 credit section.