

MASTER OF SCIENCE IN FOOD SCIENCE AND NUTRITION, FOOD SCIENCE SPECIALIZATION

The MS degree offers a core curriculum that emphasizes understanding the effects of food and nutrients on the human body. The program includes aspects of professional development, critical thinking, and scientific communication. Electives associated with each of the specializations help prepare students for further studies in doctoral or professional degrees, as well as careers in government agencies, industry, and professional practice. A minimum of 35 credits is required for the M.S. degree.

The Food Science Specialization includes elective studies oriented toward a better understanding of how food products are designed, processed, and preserved, food safety considerations, as well as how food components interact with each other and the human body for improved health.

Learn more about the Master's in Food Science and Nutrition, Food Science Specialization on the Department of Food Science and Human Nutrition website. (<https://www.chhs.colostate.edu/fshn/programs-and-degrees/m-s-in-food-science-and-nutrition/>)

Students interested in graduate work should refer to the Graduate and Professional Bulletin.

Learning Objectives

Upon successful completion, students will be able to:

1. Develop a research question based on knowledge gaps in food science/food safety and propose a hypothesis.
2. Conduct research, interpret data, and arrive at appropriate conclusions related to the core principles of food science, including food chemistry, sensory analysis, or food microbiology.
3. Communicate scientific literature to fellow professionals and industry counterparts in food science and food safety.
4. Demonstrate mastery of fundamental applied science principles.

Plan A Effective Fall 2021

Code	Title	Credits
Required Courses		
FSHN 692	Graduate Seminar	1
FTEC 570	Food Product Development	2
FTEC 572	Food Biotechnology	2
FTEC 574	Current Issues in Food Safety	2
FTEC 576	Cereal Science	2
FTEC 578/HORT 578	Phytochemicals and Probiotics for Health	3
Thesis		
FTEC 699	Thesis	10
Required Statistics/Research Methods – Select one course from the following:		3-4

EDRM 600	Introduction to Research Methods
EDRM 606	Principles: Quantitative Data Analysis
EDRM 704	Qualitative Research
EDRM 705	Qualitative Data Analysis
PSY 652	Methods of Research in Psychology I
PSY 653	Methods of Research in Psychology II
STAR 511	Design and Data Analysis for Researchers I

Electives	9-10
Select a minimum of 9 credits not taken elsewhere in the program in consultation with the graduate committee (see Example Elective Courses list below)	

Program Total Credits:	35
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Example Elective Courses

Code	Title	Credits
ANEQ 565	Interpreting Animal Science Research	3
ANEQ 567	HACCP Meat Safety	2
ANEQ 660	Topics in Meat Safety	1
BC 463	Molecular Genetics	3
BC 513	Enzymology	1
BC 517	Metabolism	2
BC 565	Molecular Regulation of Cell Function	4
BC 665A	Advanced Topics in Cell Regulation: Microscopic Methods	2
BC 665B	Advanced Topics in Cell Regulation: Modern Methods	2
BC 701	Grant Proposal Writing and Reviewing	1
BMS 500	Mammalian Physiology I	4
BMS 501	Mammalian Physiology II	4
CBE 504/BIOM 504	Fundamentals of Biochemical Engineering	3
CHEM 431	Instrumental Analysis	4
CM 502/NB 502	Techniques in Molecular & Cellular Biology	2
EDRM 600	Introduction to Research Methods	3
EDRM 606	Principles: Quantitative Data Analysis	3
EDRM 704	Qualitative Research	3
EDRM 705	Qualitative Data Analysis	3
ERHS 510/VS 510	Cancer Biology	3
ERHS 611	Cancer Genetics	2
FSHN 500	Food Systems, Nutrition, and Food Security	2
FSHN 540	Nutrigenomics and Advanced Lipid Metabolism	3
FSHN 550		3
FSHN 551	Advanced Nutritional Science--Macronutrients	3
FSHN 561	Global Nutrition Programs	2
FSHN 600	Responsible Conduct of Research	1
FSHN 640	Selected Topics in Nutritional Epidemiology	2
FSHN 650A	Recent Developments in Human Nutrition: Topics in Community Nutrition	2
FSHN 650B	Recent Developments in Human Nutrition: Carbohydrates, Lipids, and Energy	2
FSHN 650C	Recent Developments in Human Nutrition: Genomic, Proteomics, and Metabolomics	2
FSHN 695A	Independent Study: Food Science	1-3

FSHN 696A	Group Study: Food Science	1-3
HORT 401	Medicinal and Value-Added Uses of Plants	3
JTC 662	Communicating Science and Technology	3
MIP 334	Food Microbiology	3
MIP 335	Food Microbiology Laboratory	2
MIP 443	Microbial Physiology	4
MIP 450	Microbial Genetics	3
MIP 533/VS 533	Epidemiology of Infectious Diseases/ Zoonoses	3
MIP 555	Principles and Mechanisms of Disease	3
MIP 624	Advanced Topics in Microbial Ecology	2
MIP 651	Immunobiology	3
PSY 652	Methods of Research in Psychology I	4
PSY 653	Methods of Research in Psychology II	4
SOCR 755	Advanced Soil Microbiology	3
STAR 511	Design and Data Analysis for Researchers I	4
STAR 512	Design and Data Analysis for Researchers II	4
VS 562	Clinical Research Design and Data Analysis	3

A minimum of 35 credits are required to complete this program.

Plan B Effective Summer 2021

Code	Title	Credits
Required Courses		12
FSHN 692	Graduate Seminar	
FTEC 570	Food Product Development	
FTEC 572	Food Biotechnology	
FTEC 574	Current Issues in Food Safety	
FTEC 576	Cereal Science	
FTEC 578/ HORT 578	Phytochemicals and Probiotics for Health	
Research Project		4
FTEC 698	Research	
Required Statistics/Research Methods Courses – Select one course from the following:		3-4
EDRM 600	Introduction to Research Methods	
EDRM 606	Principles: Quantitative Data Analysis	
EDRM 704	Qualitative Research	
EDRM 705	Qualitative Data Analysis	
PSY 652	Methods of Research in Psychology I	
PSY 653	Methods of Research in Psychology II	
STAR 511	Design and Data Analysis for Researchers I	
STAR 512	Design and Data Analysis for Researchers II	
Electives		15-16
Select a minimum of 15 credits not taken elsewhere in the program in consultation with the graduate committee (see Example Elective Courses list below)		
Program Total Credits:		35

Example Electives Courses

Code	Title	Credits
ANEQ 565	Interpreting Animal Science Research	3
ANEQ 567	HACCP Meat Safety	2
ANEQ 660	Topics in Meat Safety	1
BC 463	Molecular Genetics	3
BC 513	Enzymology	1
BC 517	Metabolism	2
BC 565	Molecular Regulation of Cell Function	4
BC 665A	Advanced Topics in Cell Regulation: Microscopic Methods	2
BC 665B	Advanced Topics in Cell Regulation: Modern Methods	2
BC 701	Grant Proposal Writing and Reviewing	1
BMS 500	Mammalian Physiology I	4
BMS 501	Mammalian Physiology II	4
CBE 504/BIOM 504	Fundamentals of Biochemical Engineering	3
CHEM 431	Instrumental Analysis	4
CM 502/NB 502	Techniques in Molecular & Cellular Biology	2
EDRM 600	Introduction to Research Methods	3
EDRM 606	Principles: Quantitative Data Analysis	3
EDRM 704	Qualitative Research	3
EDRM 705	Qualitative Data Analysis	3
ERHS 510/VS 510	Cancer Biology	3
ERHS 611	Cancer Genetics	2
FSHN 500	Food Systems, Nutrition, and Food Security	2
FSHN 540	Nutrigenomics and Advanced Lipid Metabolism	3
FSHN 550		3
FSHN 551	Advanced Nutritional Science-- Macronutrients	3
FSHN 561	Global Nutrition Programs	2
FSHN 600	Responsible Conduct of Research	1
FSHN 640	Selected Topics in Nutritional Epidemiology	2
FSHN 650A	Recent Developments in Human Nutrition: Topics in Community Nutrition	2
FSHN 650B	Recent Developments in Human Nutrition: Carbohydrates, Lipids, and Energy	2
FSHN 650C	Recent Developments in Human Nutrition: Genomic, Proteomics, and Metabolomics	2
FSHN 695A	Independent Study: Food Science	1-3
FSHN 696A	Group Study: Food Science	1-3
HORT 401	Medicinal and Value-Added Uses of Plants	3
JTC 662	Communicating Science and Technology	3
MIP 334	Food Microbiology	3
MIP 335	Food Microbiology Laboratory	2
MIP 443	Microbial Physiology	4
MIP 450	Microbial Genetics	3
MIP 533/VS 533	Epidemiology of Infectious Diseases/ Zoonoses	3
MIP 555	Principles and Mechanisms of Disease	3
MIP 624	Advanced Topics in Microbial Ecology	2
MIP 651	Immunobiology	3

PSY 652	Methods of Research in Psychology I	4
PSY 653	Methods of Research in Psychology II	4
SOCR 755	Advanced Soil Microbiology	3
STAR 511	Design and Data Analysis for Researchers I	4
STAR 512	Design and Data Analysis for Researchers II	4
VS 562	Clinical Research Design and Data Analysis	3

A minimum of 35 credits are required to complete this program.

Requirements for All Graduate Degrees

For more information, please visit Requirements for All Graduate Degrees (<https://catalog.colostate.edu/general-catalog/graduate-bulletin/graduate-study/procedures-requirements-all-degrees/>) in the Graduate and Professional Bulletin (<https://catalog.colostate.edu/general-catalog/graduate-bulletin/>).

Summary of Procedures for the Master's and Doctoral Degrees

NOTE: Each semester the Graduate School publishes a schedule of deadlines. Deadlines are available on the Graduate School website (<https://graduateschool.colostate.edu/deadline-dates/>). Students should consult this schedule whenever they approach important steps in their careers.

Forms (<https://graduateschool.colostate.edu/forms/>) are available online.

Step	Due Date
1. Application for admission (online)	Six months before first registration
2. Diagnostic examination when required	Before first registration
3. Appointment of advisor	Before first registration
4. Selection of graduate committee	Before the time of fourth regular semester registration
5. Filing of program of study (GS Form 6)	Before the time of fourth regular semester registration
6. Preliminary examination (Ph.D. and PD)	Two terms prior to final examination
7. Report of preliminary examination (GS Form 16) - (Ph.D. and PD)	Within two working days after results are known
8. Changes in committee (GS Form 9A)	When change is made
9. Application for Graduation (GS Form 25)	Refer to published deadlines from the Graduate School Website
9a. Reapplication for Graduation (online)	Failure to graduate requires Reapplication for Graduation (online) for the next time term for which you are applying
10. Submit thesis or dissertation to committee	At least two weeks prior to the examination or at the discretion of the graduate committee
11. Final examination	Refer to published deadlines from the Graduate School Website

12. Report of final examination (GS Form 24)	Within two working days after results are known; refer to published deadlines from the Graduate School website
13. Submit a signed Thesis/Dissertation Submission Form (GS Form 30) to the Graduate School and Submit the Survey of Earned Doctorates (Ph.D. only) prior to submitting the electronic thesis/dissertation	Refer to published deadlines from the Graduate School website.
14. Submit the thesis/dissertation electronically	Refer to published deadlines from the Graduate School website
15. Graduation	Ceremony information is available from the Graduate School website