NUTRITIONAL SCIENCE MS

The Master of Science in Nutritional Science provides educational experiences for students to increase their expertise in the science of nutrition and nutrition education. Through three available options, students gain confidence in conducting and analyzing research and are prepared to become competent, evidence-based nutrition professionals and practitioners.

The option in dietetics. This option is only available to students admitted into the combined Master's and Dietetic Internship (DI) program and who have a Didactic Program in Dietetics (DPD) Verification Statement. This option is for students who wish to become eligible to sit for the registration examination to become Registered Dietitian Nutritionists (RDNs). The DI program is accredited by the Commission on Accreditation Council for Education in Nutrition and Dietetics (ACEND) of the Academy of Nutrition and Dietetics (AND). The DI consists of 1200 hours of supervised practice with an emphasis in nutrition education and consists of rotations in medical nutrition therapy, foodservice administration, and community nutrition.

The option in general nutritional science. This option is designed for students who wish to study more basic than applied science and may not go on to become registered dietitian nutritionists. Most students who complete this option apply to PhD programs or find jobs in research, teaching, or industry.

The option in nutrition education. This option is designed for students who wish to work with individuals and groups in community or private agencies that address health behavior as well as to promote optimal nutritional status. Most students who complete this option become registered dietitian nutritionists and find jobs in health care, state or federally funded programs, or education.

The MS in nutritional science provides an opportunity for students to

- Specialize in nutrition, food science, clinical nutrition, or community nutrition.
- Complete a master's degree and concurrently qualify for membership in the Academy of Nutrition and Dietetics.
- Increase competence in food and nutrition subject matter in preparation for college teaching, research, graduate study beyond the master's degree, and administrative positions in public and private agencies.

Advising Requirement

Advising is mandatory for this program. Consult your department advisor or program coordinator for information.

Requirements for the MS in Nutritional Science

Completion of all requirements as established by the program graduate committee, the graduate advisory committee, and Graduate Studies, to include:

1. Completion of 30-39 units of approved 400/500/600-level coursework as follows:
   a. Twenty-one core units plus the units required for the selected option.
   b. At least 18 of the units required for the degree must be in 600-level courses.
   c. At the discretion of the academic program, a maximum of 30 percent of the units counted toward the degree requirements may be special session credit earned in non-matriculated status combined with all transfer coursework. This applies to special session credit earned through Open University, or in courses offered for academic credit through Professional & Continuing Education. Correspondence courses and UC Extension coursework are not acceptable for transfer.
   d. Not more than a total of 10 units of Independent Study (697), Professional Paper (697P), and Research Project Paper (699P).
2. Completion and final approval of a professional paper as specified by the graduate advisory committee.
3. Completion of a comprehensive final oral examination in the field of study.
4. Approval by the graduate advisory committee and the Graduate Council on behalf of the faculty of the University.

Culminating Activity

1. Professional Paper. The candidate shall submit an acceptable professional paper based on original research developed by the student and agreed to by the student's graduate advisory committee.
   a. Professional paper proposal: A proposal of the professional paper must be submitted and approved by the graduate advisory committee before the student begins the research. The proposal includes a literature review, a statement of the problem and purpose or hypothesis of the research, research design, and methods to be used. The proposal is a formal document that must have appropriate attention given to matters of format, documentation, and quality of writing.
   b. Registration in NFSC 697P.
   c. Approval of the professional paper by members of the graduate advisory committee .
   d. Oral defense: the candidate's graduate advisory committee shall conduct an oral defense of the professional paper. The oral defense is generally limited to matters within the scope of the paper.
2. Research Project Paper Plan. Candidates in the dietetics option shall submit an acceptable research project paper based on original research developed by the student and agreed to by the student's graduate advisory committee.
   a. Research project paper proposal: A proposal of the research project paper must be submitted and approved by the graduate advisory committee before the student begins the research. The proposal includes a brief literature review, a statement of the problem and purpose or hypothesis of the research, research design, and methods to be used. The proposal is a formal document that must have appropriate attention given to matters of format, documentation, and quality of writing.
   b. Registration in NFSC 699P.
   c. Approval of the research project paper by members of the graduate advisory committee.
   d. Oral defense: The candidate's graduate advisory committee shall conduct an oral defense of the research project paper. The oral defense is generally limited to matters within the scope of the paper.

The following courses, or their approved transfer equivalents, are required of all candidates for this master's.

Course	Title	Units
Core Requirements		
NFSC 600	Research Methods in Nutritional Sciences	4
NFSC 601	Nutritional Epidemiology	2
NFSC 643	Advanced Topics in Macro and Micronutrients	4
NFSC 644	Nutritional Genomics	2
NFSC 663	Public Health Nutrition	3
NFSC 671	Advanced Clinical Nutrition	3
NFSC 697P	Professional Paper [1]	2-3
or NFSC 699P	Research Project Paper	
Option		
Select one of the following options:		9-19
Dietetics (p. 2)		
General Nutritional Science (p. 2)		
Nutrition Education (p. 2)		

[1] Students in the dietetics option should take NFSC 699P

The Option in Dietetics

Course	Title	Units
NFSC 560	Motivational Interviewing for Allied Health	3
NFSC 664	Nutrition Communication and Leadership	2
NFSC 680A	Dietetics Professional Practicum I	1
NFSC 680B	Dietetics Professional Practicum II	1
NFSC 680C	Dietetics Professional Practicum III	1
NFSC 681A	Dietetics Practice in Foodservice Administration	2
NFSC 681B	Dietetics Practice in Clinical Nutrition I	3
NFSC 681C	Dietetics Practice in Clinical Nutrition II	3
NFSC 681D	Dietetics Practice in Community Nutrition	3
Total Units		**19**

The Option in General Nutritional Science

Course	Title	Units
NFSC 691	Application in Nutrition Research	1
NFSC 697	Independent Study	1
Select seven to eight units from the following:		7-8
BIOL 409	Molecular Biology	
BIOL 411	Cell Biology	
BIOL 416	Vertebrate Physiology	
BIOL 426	Developmental Biology	
BIOL 466	Immunology	
CHEM 451	Biochemistry I	
CHEM 452	Biochemistry II	
CHEM 453L	Biochemistry Laboratory	
MATH 615	Data Analysis for Graduate Research	
Total Units		**9-10**

The Option in Nutrition Education

Course	Title	Units
NFSC 560	Motivational Interviewing for Allied Health	3
NFSC 691	Application in Nutrition Research	1
NFSC 697	Independent Study	1
Select four to six units from the following:		4-6
MATH 615	Data Analysis for Graduate Research	
NFSC 530	Nutrition Program Management and Administration	
NFSC 664	Nutrition Communication and Leadership	
NFSC 667	International Issues in Nutrition	
NFSC 689	Graduate Internship	
Total Units		**9-11**

Graduate Grading Requirements

All courses in the major (with the exceptions of Comprehensive Examination - 696, Independent Study - 697, Master's Project - 699P, and Master's Thesis - 699T) must be taken for a letter grade, except those courses specified by the department as ABC/No Credit (400/500-level courses), AB/No Credit (600-level courses), or Credit/No Credit grading only. A maximum of 10 units combined of ABC/No Credit, AB/No Credit, and Credit/No Credit grades may be used on the approved program (including 696, 697, 699P, 699T and courses outside the major). While grading standards are determined by individual programs and instructors, it is also the policy of the University that unsatisfactory grades may be given when work fails to reflect achievement of the high standards, including high writing standards, expected of students pursuing graduate study.

Students must maintain a minimum 3.0 grade point average in each of the following three categories: all coursework taken at any accredited institution subsequent to admission to the master's program; all coursework taken at Chico State subsequent to admission to the program; and all courses in the approved master's degree program. Failure to maintain a 3.0 average in any category will result in academic notice in the master's program. Failure to remedy the deficiency within one semester with appropriate courses approved by the program coordinator may result in disqualification from the master's program. See Graduate Education Policies (https://catalog.csuchico.edu/graduate-requirements/graduate-education-policies/#academicstanding) for more information.

Continuous enrollment is required. At the discretion of the academic program, a maximum of 30 percent of the units counted toward the degree requirements may be special session credit earned in non-matriculated status combined with all transfer coursework. This applies to special session credit earned through Open University, or in courses offered for academic credit through Professional & Continuing Education. Correspondence courses and UC Extension coursework are not acceptable for transfer.

Graduate Time Limit

All requirements for the degree are to be completed within five years of the end of the semester of enrollment in the oldest course applied toward the degree. See Master's Degree Requirements (https://catalog.csuchico.edu/graduate-requirements/masters-degree-requirements/) for complete details on general degree requirements.

Graduate Requirement in Writing Proficiency

All students must demonstrate competency in writing skills as a requirement for graduation. Nutritional science majors will demonstrate their writing competence through successful completion of a midterm

and final exam where students critically evaluate the scientific literature in NFSC 663.

Prerequisites for the MS in Nutritional Science

- 1 semester of inorganic chemistry or general chemistry
- 1 semester of organic chemistry
- 1 semester of microbiology
- 1 semester of physiology
- 1 semester of statistics

These courses must be completed prior to applying.

Admission to the Dietetics Option

In addition to the requirements for all applicants to the MS in Nutritional Science, applicants to this option must also provide the following supplementary information:

1. Two letters of recommendation. One must be an academic letter and the other must be a letter from an employer verifying 40 hours of work experience in nutrition/dietetics has been completed. No more than two letters will be considered. Please see the Nutrition and Food Science website (https://www.csuchico.edu/nfsc/programs/graduate/apply-di.shtml/) for more information and required forms.
2. Statement of Purpose addressing why you want to pursue an MS in Nutritional Science. In addition, the statement of purpose should address why you want to enter the dietetics profession, your short and long-term goals, your strengths and weaknesses or areas needing improvement, any experiences that have helped prepare you for your career, and any other information you would like the committee to know.
3. Resume. Must include work experience in nutrition/dietetics including at least 40 hours of experience in an acute or long-term care type setting.
4. Writing sample (academic paper expected).
5. One unofficial transcript from all colleges or universities attended since high school. If admitted, official transcripts will be requested.
6. **Verification Statement** of completion of an ACEND accredited Didactic Program in Dietetics (DPD) within the past five years or a Letter of Intent from the DPD Director.

Selection Process

The options in general nutritional science and nutrition education admit students for the fall semester (deadline November 1) and the spring semester (deadline June 1) each year.

The option in dietetics admits students for the fall semester only with a deadline of December 1 each year (no spring admission). A maximum of six students per year who have met all the admission requirements will be selected. Graduates from Chico State's BS in nutrition and food sciences with the option in general dietetics are given priority. Current Chico State graduate students (MS only) may apply if there are any remaining slots available.

Prerequisites for Admission to Conditionally Classified Status

1. Satisfactory grade point average as specified in Graduate and Postbaccalaureate Admission Requirements (https://catalog.csuchico.edu/graduate-requirements/graduate-postbaccalaureate-admission-requirements/).
2. Approval by the department and Graduate Studies.
3. An acceptable baccalaureate from an accredited institution, or an equivalent approved by Graduate Studies, which includes a minimum of 24 upper-division units among the subject areas of biochemistry, chemistry, nutrition and food science, mathematics, microbiology, physiology, and statistics. Computer literacy is also required. Students with deficiencies in undergraduate preparation may be required to take prerequisite course work at the discretion of the Graduate Coordinator after consultation with the student and faculty in the subject matter area(s) considered deficient. In addition, prerequisites for graduate-level courses must have been completed within the five years prior to taking the graduate courses. Outdated prerequisites must be validated either by examination or by registration (credit will not be earned for validating this course work).
4. Approval by the Nutrition and Food Science Graduate Coordinator.

Prerequisites for Admission to Classified Status

In addition to any requirements listed above:

1. Development and submission of an approved program plan in consultation with the Graduate Advisor and a faculty member of the student's choice.
2. Completion of 12 departmentally specified units of letter-graded 400/500/600-level course work (of which nine units must be in residence and part of the approved program) with a minimum grade point average of 3.0.

Advancement to Candidacy

In addition to any requirements listed above:

Classified graduate standing and completion at the University of at least 15 units of approved coursework.

Program Learning Outcomes (PLOs) are clear, measurable statements that describe how students demonstrate mastery of the knowledge, skills, and values of the discipline as appropriate to the degree. Graduates of this program are expected to achieve the following PLOs:

1. Master breadth of knowledge in key content areas of nutritional science, including macronutrients, micronutrients, and research methods.
2. Demonstrate the ability to critically evaluate and analyze the scientific literature in a variety of areas of nutritional science.
3. Demonstrate the ability to design and conduct an independent research project (a thesis or professional paper).
4. Demonstrate proficient oral and written communication skills.