

# NUTRITIONAL SCIENCES

<b>Graduate Program Head</b>	Meg Bruening
<b>Program Code</b>	NUTR
<b>Campus(es)</b>	University Park (Ph.D., M.S.) World Campus (M.P.S.)
<b>Degrees Conferred</b>	Doctor of Philosophy (Ph.D.) Master of Science (M.S.) Master of Professional Studies (M.P.S.) Dual-Title Ph.D. in Nutritional Sciences and Clinical and Translational Science Dual-Title Ph.D. in Nutritional Sciences and Social and Behavioral Neuroscience Integrated B.S. in Nutritional Sciences and M.P.S. in Nutritional Sciences
<b>The Graduate Faculty</b>	View ( <a href="https://secure.gradsch.psu.edu/gpms/?searchType=fac&amp;prog=NUTR">https://secure.gradsch.psu.edu/gpms/?searchType=fac&amp;prog=NUTR</a> )

## PH.D., M.S., DUAL-TITLE PH.D. (NUTRITIONAL SCIENCES AND CLINICAL AND TRANSLATIONAL SCIENCES or SOCIAL AND BEHAVIORAL NEUROSCIENCE)

Graduates of the M.S. and Ph.D. programs are prepared for careers in basic and applied research in nutrition and in college teaching. The course of study is planned to meet the professional objectives of the individual student. Students may emphasize molecular and cellular nutritional sciences, nutritional biochemistry, applied human nutrition, applied animal nutrition, nutrition education, and nutrition in public health. Supporting courses are available in biochemistry, physiology, genetics, microbiology, biophysics, food science, health policy and administration, human development and family studies, anthropology, sociology, psychology, public health sciences, and statistics.

Current research emphasizes minerals, vitamins, lipid metabolism, metabolic disorders, nutrition and behavior, nutrition education strategies, evaluation of dietary intake and nutritional status, nutrition policy and health promotion and disease prevention across the life cycle.

Facilities include well-equipped nutrition science laboratories with animal facilities supervised by a University laboratory animal resource staff. The Diet Assessment Center and the metabolic kitchens serve as laboratories for students in community nutrition, nutrition education, and metabolic nutrition.

## M.P.S.

The online professional master's degree (M.P.S.) is designed for those seeking to become registered dietitians, for those already registered and interested in enhancing their careers, and for those interested in pursuing a career with a focus in Nutritional Sciences. Graduates of the program may expect to become leaders on the health care team and other practice teams, and share their knowledge and expertise with other health care professionals and colleagues. Graduates will be positioned for career success and will be innovators in today's dynamic health and wellness sector.

The M.P.S. degree is also offered with an experiential learning track that requires additional course work. Upon completion of the experiential learning track, students will receive a Verification Statement which qualifies them to take the Registered Dietitian Nutritionist credentialing examination.

This is a supervised experiential learning track of the M.P.S. degree program. This track requires that the student complete an additional 9 credits for a total of 39 credits and includes an experiential learning component (6 credits) integrated with the coursework. Three credits of coursework for the Experiential Learning Track of the M.P.S. are online and 6 credits of the coursework are in residence at either the Hershey, PA or University Park, PA and remote/distance geographical locations. Remote geographic locations require students to obtain preceptors/sites in the geographical location in which they reside. These preceptors/sites must be approved by the program prior to admission.

## Admission Requirements

Applicants apply for admission to the program via the Graduate School application for admission (<https://gradschool.psu.edu/graduate-admissions/how-to-apply/>). Requirements listed here are in addition to Graduate Council policies listed under GCAC-300 Admissions Policies (<https://gradschool.psu.edu/graduate-education-policies/>).

## Master of Professional Studies (M.P.S.)

Scores from the Graduate Record Examinations (GRE) are not required for admission.

College graduates with an undergraduate degree in nutrition, dietetics, public health or related health sciences will be considered for admission. Applicants should have a minimum grade-point average of 3.00 (on a 4.00 scale) and three supporting recommendations. Exceptions may be made for students with special backgrounds, abilities, and interests at the discretion of the program. When openings are limited, the best-qualified candidates are given priority.

The basic expectations for admission from undergraduate studies include:

- 3 credits in physiology (or 6 credits in Anatomy & Physiology I and II),
- 3 credits in biochemistry,
- 3 credits in organic chemistry,
- 3 credits in introductory nutrition (equivalent to or more advanced than NUTR 251 at Penn State), and
- 3 credits in advanced nutrition.

If these courses were taken more than 10 years prior to application, they may be accepted at the Programs Director's discretion. Students can be provisionally admitted (<http://gradschool.psu.edu/graduate-education-policies/gcac/gcac-300/provisional-admission/>) to the program without these basic expectations, but they must complete all identified deficiencies with a 3.00 grade-point average or above on a 4.0 scale within the first two semesters after acceptance, prior to beginning graduate course work.

## Experiential Track of the M.P.S. Program

College graduates with an undergraduate degree in nutrition, dietetics, public health or related health sciences will be considered for admission. Applicants should have a minimum grade-point average of 3.00 (on a 4.00 scale) and three supporting recommendations. Exceptions may be made for students with special backgrounds, abilities, and interests at the

discretion of the program. Scores from the Graduate Record Examination (GRE) are not required for admission.

The basic expectations for admission to the Experiential Track from undergraduate studies include:

- 3 credits in physiology (or 6 credits in Anatomy & Physiology I and II),
- 3 credits in biochemistry,
- 3 credits in organic chemistry,
- 3 credits in introductory nutrition (equivalent to or more advanced than NUTR 251 at Penn State),
- 3 credits in Lifecycle Nutrition,
- 3 credits in Nutrient Metabolism (macronutrient and micronutrient), and
- 3 credits in Medical Nutrition Therapy.

In addition, students must have a total of 500 hours of appropriately documented work or volunteer experience completed within two years of application. Of the 500 hours, 300 hours must be in a nutrition or dietetics-related field.

If any of these courses were completed more than 10 years prior to application, they may be accepted at the Program Director's discretion. The exception is if Medical Nutrition Therapy was taken more than 5 years prior to application, it may be accepted at Program Director's discretion.

For students with a bachelor's degree from an ACEND accredited Didactic Program in Dietetics (DPD), a DPD Verification Statement is required for admission into the Experiential Track of the graduate program.

Students can be provisionally admitted to the Experiential Track of the M.P.S. program without these basic expectations, but they must complete all identified deficiencies with a B grade (3.00 on a 4.0 scale) within the first two semesters after acceptance, prior to taking the following courses: NUTR 800 Food Systems and Organization Management and NUTR 895A, NUTR 895B and NUTR 895C. Students previously matriculated in the M.P.S. program (graduate degree only) must complete an Assessment of Prior Learning form before enrolling in NUTR 895A, NUTR 895B, or NUTR 895C.

#### **Additional Admission Requirements for Remote Location Students**

Students must secure sites and preceptors in the remote location prior to admission to the program. The secured sites and preceptors must have prior approval by the program before official admission is granted. Supervised Experiential Learning (SEL) Plan of Study (POS) form must be submitted with Graduate School application.

### **Master of Science (M.S.) and Doctor of Philosophy (Ph.D.)**

Scores from the Graduate Record Examinations (GRE), or from the Medical College Admission Test (MCAT), are required for admission. At the discretion of the graduate program, the GRE or other test scores may be waived for an individual on a case-by-case basis.

College graduates with an undergraduate degree in nutrition, animal sciences, food science, dietetics, or a related biological or social science will be considered for admission. Applicants should have a minimum grade-point average of 3.00 (on a 4.00 scale), an acceptable score on the GRE (an average quantitative and verbal score above the fiftieth percentile), and three supporting recommendations. Exceptions may be made at the discretion of the program for students with special

backgrounds, abilities, and interests. When openings are limited, the best-qualified applicants are given priority.

The basic expectations for admission from undergraduate studies include: 6 credits in chemistry (organic and inorganic); 3 credits each in physiology, biochemistry, and nutrition; and physics, calculus, and analytical chemistry for some research areas in nutrition science, and social science for public health and community nutrition. Students with more than 8 credits of deficiency and a superior record may be provisionally admitted (<http://gradschool.psu.edu/graduate-education-policies/gcac/gcac-300/provisional-admission/>) to the graduate degree program. The deficiencies identified must be made up with a 3.00 grade-point average or better within the first two semesters.

## **Degree Requirements**

### **Master of Professional Studies (M.P.S.)**

Requirements listed here are in addition to Graduate Council policies listed under GCAC-700 Professional Degree Policies (<https://gradschool.psu.edu/graduate-education-policies/>).

The program can be completed on a full-time basis in 24 months or students may elect to complete the program on a part-time basis. Requirements for the completion of the Master of Professional Studies in Nutritional Sciences degree include 30 credits at the 500 and 800 level, with a minimum of 6 credits of 500-level course work:

Code	Title	Credits
<b>Required Courses</b>		
NUTR 805	Advanced Nutrient Metabolism	4
NUTR 540	Research Methods	3
NUTR 801	Leadership in the Nutrition Profession	2
NUTR 810	Nutritional Assessment and Diagnosis	3
NUTR 820	Advanced Clinical Nutrition	3
NUTR 830	Advanced Nutrition and Health Program Planning	3
NUTR 840	Advanced Nutrition Counseling	3
NUTR 850	Leadership Concepts and Application for the Nutrition Professional	3
STAT 500 or STAT 800	Applied Statistics Applied Research Methods	3
<b>Culminating Experience</b>		
NUTR 860	Capstone Project in Nutritional Sciences	3
<b>Total Credits</b>		<b>30</b>

All students must enroll in NUTR 860 (<https://bulletins.psu.edu/search/?P=NUTR%20860>) and successfully complete the Capstone Project in order to earn the M.P.S. degree. Depending on the nature of the proposed Capstone Project, the program will approve between 2 and 5 credits of NUTR 860 (<https://bulletins.psu.edu/search/?P=NUTR%20860>) to count towards the degree requirements for a total of 30 credits (minimum). Elective credits may be chosen from a list of approved electives maintained by the program office.

### **Experiential Track of the M.P.S. Program**

Upon completion of the Experiential Learning track of the M.P.S. degree program, students will receive a Verification Statement which qualifies them to take the Registered Dietitian Nutritionist credentialing examination.

In addition to the 30 credits, as described above for the M.P.S. degree, students accepted into the Experiential Track of the M.P.S. Program will be required to take the following additional courses:

Code	Title	Credits
<b>Required Courses</b>		
NUTR 800	Food Systems and Organization Management	3
NUTR 895A	Internship-Clinical	2
NUTR 895B	Internship-Food Systems and Organization Management	2
NUTR 895C	Internship-Community	2
<b>Total Credits</b>		<b>9</b>

The total number of credits required for completion of the Experiential Track of the M.P.S. Program is 39 credits (minimum).

## Master of Science (M.S.)

Requirements listed here are in addition to Graduate Council policies listed under GCAC-600 Research Degree Policies. (<https://gradschool.psu.edu/graduate-education-policies/>)

The graduate program in Nutritional Sciences offers the M.S. degree with an emphasis in basic nutritional sciences, applied human nutrition, or nutrition in public health. The M.S. degree requires a minimum of 30 credits of course work at the 400, 500, 600, or 800 level, including at least 12 credits in 500-level courses and 6 credits in thesis research (NUTR 600 or NUTR 610).

Code	Title	Credits
<b>Required Courses</b>		
NUTR 501	Regulation of Nutrient Metabolism I	4
NUTR 502	Regulation of Nutrient Metabolism II	3
NUTR 520	Readings in Nutrition	2
NUTR 551	Seminar in Nutrition	1
4 additional credits at the 500 level from a list maintained by the program		4
<i>Supporting Courses</i>		
ENGL 418	Advanced Technical Writing and Editing (or equivalent)	3
3 credits in Statistics		3
<b>Electives</b>		
Elective credits may be chosen from a list of approved electives maintained by the program office. Students pursuing an M.S. degree with an emphasis in nutrition and public health are required to complete a 4-credit field experience.		4
<b>Culminating Experience</b>		
NUTR 600	Thesis Research	6
	or NUTR 610 Thesis Research Off Campus	
<b>Total Credits</b>		<b>30</b>

Students must write and defend a master's thesis accepted by the advisers and committee members, the head of the graduate program, and the Graduate School, and the student must pass a thesis defense.

## Doctor of Philosophy (Ph.D.)

Requirements listed here are in addition to Graduate Council policies listed under GCAC-600 Research Degree Policies. (<https://gradschool.psu.edu/graduate-education-policies/>)

The Ph.D. requires a minimum of 30 credits of course work at the 400, 500, 600, or 800 level, including 18 credits in the following core required courses:

Code	Title	Credits
<b>Required Courses</b>		
NUTR 501	Regulation of Nutrient Metabolism I	4
NUTR 502	Regulation of Nutrient Metabolism II	3
NUTR 503	Nutritional Epidemiology	3
NUTR 520	Readings in Nutrition (taken twice)	1
NUTR 551	Seminar in Nutrition (taken twice)	1
4 additional credits at the 500 level from a list maintained by the program		4
<b>Electives</b>		
12 elective credits chosen in consultation with advisers and Ph.D. committee, from a list of approved electives maintained by the program office		12
<b>Total Credits</b>		<b>30</b>

Students must also attend a weekly colloquium seminar for their entire time in the program. All doctoral students must serve as a teaching assistant for two semesters.

Students must pass a qualifying examination designed to assess the student's potential and academic preparation for doctoral study. Qualifying examinations must be scheduled in compliance with Graduate Council policy (<http://gradschool.psu.edu/graduate-education-policies/gcac/gcac-600/gcac-604-qualifying-examination-research-doctorate/>). For students with a master's degree, the qualifying examination must be scheduled prior to earning 24 graduate credits or prior to completing 3 semesters following admission to the graduate program, whichever comes first. The qualifying examination is administered and evaluated by the Graduate Qualifying Examination Committee. After completion of the qualifying examination, each student will form a Ph.D. committee comprised of Graduate Faculty internal and external to the Graduate Program in Nutritional Sciences, in accordance with Graduate Council requirements (<http://gradschool.psu.edu/graduate-education-policies/gcac/gcac-600/phd-dissertation-committee-formation/>). Students must pass a comprehensive examination, the specific format and content of which is determined in consultation with the Ph.D. committee after which they must write and present a dissertation proposal which needs to be approved by their Ph.D. committee. The writing of a satisfactory dissertation accepted by the Ph.D. committee, the graduate program PIC, and the Graduate School along with passing of the final oral examination (the defense) in Nutritional Sciences, is required.

## English Competence

Written and oral English competency will be determined by the qualifying examination committee and remediation assigned, if necessary. Competence must be formally attested by the program before the doctoral student's comprehensive examination is scheduled.

## Dual-Titles

### Dual-Title Ph.D. Degree in Nutritional Sciences and Clinical and Translational Sciences

Requirements listed here are in addition to requirements listed in GCAC-208 Dual-Title Graduate Degree Programs (<https://gradschool.psu.edu/graduate-education-policies/gcac/gcac-200/gcac-208-dual-titles/>).

This dual-title degree program emphasizes interdisciplinary scholarship at the interface of basic sciences, clinical sciences, and human health. Students in the dual-title program are required to either have two advisers from separate disciplines: one individual serving as the primary adviser in the Graduate Program in Nutritional Sciences and another individual serving as the secondary adviser in an area covered by the dual-title program who is a member of the Clinical and Translational Sciences faculty; or if the student's advisor is a member of the Clinical and Translational Sciences faculty, s/he may fulfill both roles.

Doctoral students with research and educational interests in clinical and translational science may apply for the Dual-Title Ph.D. Degree in Nutritional Sciences and Clinical and Translational Sciences following admission to the Graduate School and Nutritional Sciences and prior to taking the qualifying examination in Nutritional Sciences. An admissions committee comprised of faculty affiliated with the dual-title program will evaluate applicants. Applicants must have a graduate GPA of at least 3.5 in a research area related to human health. Prospective dual-title program students will write a statement of purpose that addresses the ways in which their research and professional goals will be enhanced by an interdisciplinary course of study in clinical and translational sciences.

Students must apply and be admitted to the graduate program in Nutritional Sciences and The Graduate School before they can apply for admission to the dual-title degree program. After admission to their primary program, students must apply for admission to and meet the admissions requirements of the Clinical and Translational Sciences dual-title program. Refer to the Admission Requirements section of the Clinical and Translational Sciences Bulletin page (<https://bulletins.psu.edu/graduate/programs/majors/clinical-translational-sciences/>). Doctoral students must be admitted into the dual-title degree program in Clinical and Translational Sciences prior to taking the qualifying examination in their home department.

To qualify for the dual-title degree, students must satisfy the degree requirements for the Ph.D. in Nutritional Sciences. In addition, students pursuing the dual-title Ph.D. in Nutritional Sciences and Clinical and Translational Sciences must complete the degree requirements for the dual-title Ph.D. in Clinical and Translational Sciences, listed on the Clinical and Translational Sciences Bulletin page (<https://bulletins.psu.edu/graduate/programs/majors/clinical-translational-sciences/>). Approximately 12 credits of course work required for the CTS dual-title may also be counted as required elective courses for the Ph.D. in Nutritional Sciences.

The qualifying examination committee for the dual-title Ph.D. degree will be composed of Graduate Faculty from Nutritional Sciences and must include at least one Graduate Faculty member from the Clinical and Translational Sciences program. Faculty members who hold appointments in both programs' Graduate Faculty may serve in a combined role. There will be a single qualifying examination, containing elements of both Nutritional Sciences and Clinical and Translational Sciences. Dual-title graduate degree students may require an additional semester to fulfill requirements for both areas of study and, therefore, the qualifying examination may be delayed one semester beyond the normal period allowable.

In addition to the general Graduate Council requirements for Ph.D. committees (<http://gradschool.psu.edu/graduate-education-policies/gcac/gcac-600/phd-dissertation-committee-formation/>), the Ph.D. committee of a Nutritional Sciences and Clinical and Translational Sciences dual-title Ph.D. student must include at least one member of the Clinical and Translational Sciences Graduate Faculty. Faculty

members who hold appointments in both programs' Graduate Faculty may serve in a combined role. If the chair of the Ph.D. committee is not also a member of the Graduate Faculty in Clinical and Translational Sciences, the member of the committee representing Clinical and Translational Sciences must be appointed as co-chair. The Clinical and Translational Sciences representative on the student's Ph.D. committee will develop questions for and participate in the evaluation of the comprehensive examination.

Students in the dual-title program are required to write and orally defend a dissertation on a topic that is approved in advance by their Ph.D. committee and reflects their original research and education in Nutritional Sciences and Clinical and Translational Sciences. Upon completion of the doctoral dissertation, the candidate must pass a final oral examination (the dissertation defense) to earn the Ph.D. degree. The dissertation must be accepted by the Ph.D. committee, the head of the graduate program, and the Graduate School.

### **Dual-Title Ph.D. Degree in Nutritional Sciences and Social and Behavioral Neuroscience**

Requirements listed here are in addition to requirements listed in GCAC-208 Dual-Title Graduate Degree Programs (<https://gradschool.psu.edu/graduate-education-policies/gcac/gcac-200/gcac-208-dual-titles/>).

This dual-title degree program emphasizes the study of how brain development and function influence, and are influenced by, social, environmental, and behavioral variables. The dual-title Ph.D. program provides students with additional training in an integrative neuroscience program in order to enable them to pursue innovative interdisciplinary research with intellectual sophistication. Students in the dual-title program are required to either have two advisors from separate disciplines: one individual serving as the primary advisor in the Graduate Program in Nutritional Sciences and another individual serving as the secondary advisor in an area covered by the dual-title program who is a member of the Social and Behavioral Neuroscience (SBN) faculty; or if the student's advisor is a member of the SBN faculty, s/he may fulfill both roles.

Doctoral students with research and educational interests in social and behavioral neuroscience may apply for the Dual-Title Ph.D. Degree in Nutritional Sciences and Social and Behavioral Neuroscience following admission to the Graduate School and Nutritional Sciences and prior to taking the qualifying examination in Nutritional Sciences. An admissions committee comprised of faculty affiliated with the dual-title program will evaluate applicants. Prospective dual-title program students will write a letter of application that addresses the ways in which their research and professional goals will be enhanced by an interdisciplinary course of study in social and behavioral neuroscience.

Students must apply and be admitted to the graduate program in Nutritional Sciences and The Graduate School before they can apply for admission to the dual-title degree program. After admission to their primary program, students must apply for admission to and meet the admissions requirements of the Social and Behavioral Neuroscience dual-title program. Refer to the Admission Requirements section of the Social and Behavioral Neuroscience bulletin page. Doctoral students must be admitted into the dual-title degree program in Social and Behavioral Neuroscience prior to taking the qualifying examination in their home department.

To qualify for the dual-title degree, students must satisfy the degree requirements for the Ph.D. in Nutritional Sciences. In addition, students

pursuing the dual-title Ph.D. in Nutritional Sciences and Social and Behavioral Neuroscience must complete the degree requirements for the dual-title Ph.D. in Social and Behavioral Neuroscience, listed on the Social and Behavioral Neuroscience bulletin page. Nine credits of course work required for the Social and Behavioral Neuroscience dual-title may also be counted as required elective courses for the Ph.D. in Nutritional Sciences.

The qualifying examination committee for the dual-title Ph.D. degree will be composed of Graduate Faculty from Nutritional Sciences and must include at least one Graduate Faculty member from the Social and Behavioral Neuroscience program. Faculty members who hold appointments in both programs' Graduate Faculty may serve in a combined role. There will be a single qualifying examination, containing elements of both Nutritional Sciences and Social and Behavioral Neuroscience. Dual-title graduate degree students may require an additional semester to fulfill requirements for both areas of study and, therefore, the qualifying examination may be delayed one semester beyond the normal period allowable.

In addition to the general Graduate Council requirements for Ph.D. committees, the Ph.D. committee of a Nutritional Sciences and Social and Behavioral Neuroscience dual-title Ph.D. student must include at least one member of the Social and Behavioral Neuroscience Graduate Faculty. Faculty members who hold appointments in both programs' Graduate Faculty may serve in a combined role. If the chair of the Ph.D. committee is not also a member of the Graduate Faculty in Social and Behavioral Neuroscience, the member of the committee representing Social and Behavioral Neuroscience must be appointed as co-chair. The Social and Behavioral Neuroscience representative on the student's Ph.D. committee will develop questions for and participate in the evaluation of the comprehensive examination.

Students in the dual-title program are required to write and orally defend a dissertation on a topic that is approved in advance by their Ph.D. committee and reflects their original research and education in Nutritional Sciences and Social and Behavioral Neuroscience. Upon completion of the doctoral dissertation, the candidate must pass a final oral examination (the dissertation defense) to earn the Ph.D. degree. The dissertation must be accepted by the Ph.D. committee, the head of the graduate program, and the Graduate School.

## **Integrated Undergrad-Grad Programs**

### **INTEGRATED B.S. in Nutritional sciences AND m.p.s. in nutritional sciences**

This Integrated Undergraduate/Graduate (IUG) degree program combines the B.S. in Nutritional Sciences with the M.P.S. in Nutritional Sciences offered at the following campuses:

#### **Undergraduate Degree**

- University Park

#### **Graduate Degree**

- World Campus

Requirements listed here are in addition to requirements listed in GCAC-210 Integrated Undergraduate-Graduate (IUG) Degree Programs (<https://gradschool.psu.edu/graduate-education-policies/gcac/gcac-200/gcac-210-integrated-undergraduate-graduate-degree-programs/>).

## **ADMISSION REQUIREMENTS**

Applicants apply for admission to the program via the Graduate School application for admission (<https://gradschool.psu.edu/graduate-admissions/how-to-apply/>). Requirements listed here are in addition to Graduate Council policies listed under GCAC-300 Admissions Policies (<https://gradschool.psu.edu/graduate-education-policies/>).

The following credentials will be considered for admission:

- IUG Plan of Study
- Resume
- Personal statement of interests and goals
- Three letters of recommendation (must include one letter from the student's undergraduate academic advisor that proves the academic advisor has worked with the student to develop a Plan of Study)
- Official transcripts from all colleges and universities attended
- Minimum GPA of 3.25

Students must apply to the program via the Graduate School application for admission (<http://www.gradschool.psu.edu/prospective-students/how-to-apply/>), and must meet all the admission requirements of the Graduate School and the Nutritional Sciences graduate program for the Master of Professional Studies degree, which are listed on the Admission Requirements tab. Before applying to the Graduate School, students must have completed entrance to their undergraduate major and have completed no less than 60 credits. Students must be admitted no later than the end of the second week of the semester preceding the semester of expected conferral of the undergraduate degree. Transfer students must have completed at least 15 credits at Penn State to enroll in an IUG.

In consultation with an adviser, students must prepare a Plan of Study appropriate to this integrated program and must present their Plan of Study to the head of the graduate program or the appropriate committee overseeing the integrated program prior to being admitted to the program. The plan should cover the entire time period of the integrated program, and it should be reviewed periodically with an adviser as the student advances through the program.

## **DEGREE REQUIREMENTS**

Students admitted to the B.S. in Nutritional Sciences/M.P.S. are able to earn both the B.S. and M.P.S. in five calendar years of full-time academic study.

Students must fulfill all degree requirements for each degree in order to be awarded that degree, subject to the double-counting of credits as outlined below. Degree requirements for the Bachelor of Science in Nutritional Sciences are listed in the Undergraduate Bulletin. (<https://bulletins.psu.edu/undergraduate/colleges/health-human-development/nutritional-sciences-bs/>) Degree requirements for the Master of Professional Studies in Nutritional Sciences degree are listed on the Degree Requirements tab in the Graduate Bulletin (<https://bulletins.psu.edu/graduate/programs/majors/nutritional-sciences/#degreerequirementstext>). Students must sequence their courses so all undergraduate degree requirements are fulfilled before taking courses to count solely towards the graduate degree. Students are expected to complete the undergraduate degree requirements within the typical time to degree for the undergraduate major. In the semester in which the undergraduate degree requirements will be completed, IUG students must apply to graduate, and the undergraduate degree should be conferred at the next appropriate commencement. If students accepted into the IUG program are unable to complete the M.P.S. degree, they are still eligible

to receive their undergraduate degree if all the undergraduate degree requirements have been satisfied.

Up to 12 credits may be double-counted towards the degree requirements for both the graduate and undergraduate degree. A minimum of 50% of the double-counted credits must be at the 500 or 800 level. Independent study courses and credits associated with the culminating experience for the graduate degree cannot be double-counted.

Code	Title	Credits
<b>Courses Eligible to Double Count for Both Degrees</b>		
NUTR 801	Leadership in the Nutrition Profession	2
NUTR 810	Nutritional Assessment and Diagnosis	3
NUTR 830	Advanced Nutrition and Health Program Planning	3
NUTR 840	Advanced Nutrition Counseling	3
NUTR 850	Leadership Concepts and Application for the Nutrition Professional	3

## Minor

A graduate minor is available in any approved graduate major or dual-title program. The default requirements for a graduate minor are stated in Graduate Council policies listed under GCAC-600 Research Degree Policies (<https://gradschool.psu.edu/graduate-education-policies/>) and GCAC-700 Professional Degree Policies (<https://gradschool.psu.edu/graduate-education-policies/>), depending on the type of degree the student is pursuing:

- GCAC-611 Minor - Research Doctorate (<https://gradschool.psu.edu/graduate-education-policies/gcac/gcac-600/gcac-611-minor-research-doctorate/>)
- GCAC-641 Minor - Research Master's (<https://gradschool.psu.edu/graduate-education-policies/gcac/gcac-600/gcac-641-minor-research-masters/>)
- GCAC-709 Minor - Professional Doctorate (<https://gradschool.psu.edu/graduate-education-policies/gcac/gcac-700/gcac-709-professional-doctoral-minor/>)
- GCAC-741 Minor - Professional Master's (<https://gradschool.psu.edu/graduate-education-policies/gcac/gcac-700/gcac-741-masters-minor-professional/>)

## Student Aid

Graduate assistantships available to students in this program and other forms of student aid are described in the Tuition & Funding (<https://gradschool.psu.edu/graduate-funding/>) section of The Graduate School's website. Students on graduate assistantships must adhere to the course load limits (<https://gradschool.psu.edu/graduate-education-policies/gsad/gsad-900/gsad-901-graduate-assistants/>) set by The Graduate School.

Graduate assistantships are only available for students in the M.S. and Ph.D. degree programs.

## Courses

Graduate courses carry numbers from 500 to 699 and 800 to 899. Advanced undergraduate courses numbered between 400 and 499 may be used to meet some graduate degree requirements when taken by graduate students. Courses below the 400 level may not. A graduate student may register for or audit these courses in order to make up

deficiencies or to fill in gaps in previous education but not to meet requirements for an advanced degree.

Nutrition (NUTR) Course List (<https://bulletins.psu.edu/university-course-descriptions/graduate/nutr/>)

## Learning Outcomes

### Master of Professional Studies (M.P.S.)

- Know:** Graduates will demonstrate knowledge of advanced principles of food and nutrition while incorporating primary literature in the application of nutrition in practice. The core knowledge demonstration will include comprehension of current evidence in the field and an understanding of metabolism, nutrition assessment, clinical nutrition, nutrition counseling, nutrition education and program planning, research, and leadership.
- Apply/Create:** Graduates will be able to analyze and synthesize the research findings and the skills to translate research to best practices in various nutrition practice settings including clinical, research, management, and community. Graduates will demonstrate the ability to evaluate high-quality research to build an evidence base for practice decisions and generate ideas for a novel capstone project. Graduates will be also able to demonstrate the ability to design, implement, and evaluate a capstone project and effectively demonstrate the ability to disseminate their findings to other health care professionals and colleagues.
- Communicate:** Graduates will be able to convey ideas, arguments and practice-based decisions in clear, concise, well-organized papers, proposals, videos, posters, and oral presentations.
- Critical Thinking:** Graduates will be able to critique and interpret primary food and nutrition literature, consumer nutrition information, and contemporary discourse in the field of nutrition. Critical thinking skills will be demonstrated by the student's ability to analyze, evaluate, interpret, and apply the principles of nutrition assessment, clinical nutrition, nutrition counseling, nutrition education and program planning, research, and leadership in diverse, practical formative and summative assessments.
- Professional practice:** Graduates will demonstrate knowledge and comprehension of ethical principles relevant to leadership and professional practice in the field of nutrition and those related to authorship, plagiarism, conflicts of interest, and will develop a breadth and depth of understanding relevant to diversity, equity, inclusion, and belonging. Students will also demonstrate the skills needed to become innovators and leaders in today's dynamic health and wellness sector. These skills include critical thinking, problem solving, collaboration, communication, leadership, cultural humility.

### Master of Science (M.S.)

- Know:** Students will demonstrate knowledge of the basic principles of nutrition science and an understanding of the primary literature both in basic and applied areas of research. The core demonstration will include comprehension of current knowledge in the field and an understanding of study design, methods, results, and significance and the application of this comprehension/understanding to problems in biology, biochemistry, medicine, and public health.
- Apply/Create:** Students will be able to synthesize the research findings in their specialty area and generate ideas for a novel research project; they will be able to articulate the rationale for the proposed novel research project and clearly describe a specific hypothesis to be tested; they will demonstrate the ability to use best

practices in the field of nutrition science to design a research study to test this hypothesis and carry it to completion.

3. **Communicate:** Students will be able to convey ideas or arguments in clear, concise, well-organized papers and proposals as well as in formal, oral presentations.
4. **Critical thinking:** Students will master the ability to critique the primary nutrition science literature. This will be demonstrated by the student's ability to identify the research question, experimental design and conclusions in a scientific article in the field; they will also be able to apply their knowledge of statistics and experimental design to critique methodology and conclusions in a scientific article in the field.
5. **Professional practice:** Students will demonstrate knowledge and comprehension of research ethics issues which are relevant to the field of nutrition science including working with animal and human populations, ethical principles related to authorship, plagiarism, and conflicts of interest. They will also contribute to the profession through service.

## Doctor of Philosophy (Ph.D.)

1. **Know:** Students will demonstrate knowledge of the basic principles of nutrition science and an understanding of the primary literature both in basic and applied areas of research. The core demonstration will include comprehension of current knowledge in the field and an understanding of study design, methods, results, and significance and the application of this comprehension/understanding to problems in biology, biochemistry, medicine, and public health.
2. **Apply/Create:** Students will be able to synthesize the research findings in their specialty area and generate ideas for a novel research project; they will be able to articulate the rationale for the proposed novel research project and clearly describe a specific hypothesis to be tested; they will demonstrate the ability to use best practices in the field of nutrition science to design a research study to test this hypothesis and carry it to completion.
3. **Communicate:** Students will be able to convey ideas or arguments in clear, concise, well-organized papers and proposals as well as in formal, oral presentations.
4. **Critical thinking:** Students will master the ability to critique the primary nutrition science literature. This will be demonstrated by the student's ability to identify the research question, experimental design and conclusions in a scientific article in the field; they will also be able to apply their knowledge of statistics and experimental design to critique methodology and conclusions in a scientific article in the field.
5. **Professional practice:** Students will demonstrate knowledge and comprehension of research ethics issues which are relevant to the field of nutrition science including working with animal and human populations, ethical principles related to authorship, plagiarism, and conflicts of interest. They will also contribute to the profession through service.

## Professional Licensure/Certification

Many U.S. states and territories require professional licensure/certification to be employed. If you plan to pursue employment in a licensed profession after completing this program, please visit the Professional Licensure/Certification Disclosures by State (<https://www.psu.edu/state-licensure-disclosures/>) interactive map.

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