

## FACT SHEET 3.22.2022 M.S. IN NUTRITION

The Master of Science program in Nutrition at Brooklyn College provides advanced-level study of nutritional science and clinical nutrition. This advanced degree equips you with more sophisticated understanding of nutrient metabolism and its application to both normal physiological and pathophysiological states. The M.S. degree can help you assume positions of greater responsibility in the field of nutrition. Careers in nutrition include positions as clinical nutritionists, nutrition educators, administrators of programs that provide nutrition services in commercial or institutional settings, nutritionists in community-based or private practice settings, and researchers or interpreters of research in academia, medical institutions, industry, the government or mass media.

The M.S. degree does not directly lead to the credential of Registered Dietician Nutritionist (RDN); the program provides some courses that meet DPD. (Didactic Program in Dietetics) requirements, and some courses in the Brooklyn College Dietetic Internship can be used as electives toward the M.S. degree. Students who wish to become Registered Dietician Nutritionists may apply to our Academy of Nutrition and Dietetics- accredited Dietetic Internship (see below), which requires acceptance into our M.S. program and prior completion of 12 graduate credits (see below). Application to the Dietetic Internship can be made after students have completed a set of courses (DPD) prescribed by the AND and have received a Verification Statement. Although these courses are mainly taken at the undergraduate level before beginning the M.S. program, a number of the graduate levels courses can be used to fulfill DPD requirements. Note also that all of the prerequisites for the M.S. program are also part of the DPD.

The program is housed in the Department of Health and Nutrition Sciences, which also offers an M.A. in Thanatology and an M.A. in Community Health Education. Students in the M.S. in Nutrition may use some courses that are common to these programs as electives.

### Admission Requirements

Applicants are expected to have an overall GPA of at least 3.0; grades in the prerequisite areas listed below are of particular importance. **The Graduate Record Examination is not required.** International students may require TOEFL (114) or IELTS (8); information may be obtained from the Office of Graduate Admissions. Please go to <http://www.brooklyn.cuny.edu/programs/index.jsp?div=G> for additional information on graduate admissions.

Most students who apply to the M.S. program have undergraduate degrees in Nutrition. However, students with baccalaureate degrees in other fields may be accepted to the program **after they complete the following undergraduate courses** (at Brooklyn College or any accredited college) **with satisfactory grades**. Students who have prerequisites to fulfill would first apply as undergraduate non-degree or second baccalaureate (taking at least 30 undergraduate credits in a particular field) in order to take these courses. **An application to the M.S. program should be submitted after all but 1-2 courses have been completed with grades of at least B-** and the remaining prerequisite courses are **in progress**.

(BC courses are listed in parentheses):

- General Biology sequence (Bio 1001 and 1002) **or** courses in cell and molecular biology
- General Chemistry (single semester course with lab) (Chem 1040) or General Chemistry sequence
- Organic Chemistry (single semester course with lab) (Chem 2500) or Organic Chemistry sequence
- Human Physiology (HNSC 2300; or **both** parts of a two-semester Anatomy and Physiology sequence)
- Human Nutrition (HNSC 2210) or a Nutrition majors' level course in Nutrition
- Biochemistry or Nutritional Chemistry (HNSC 3210)
- Biostatistics (HNSC 3300)
- Clinical Nutrition I and II (HNSC 4240 and HNSC 4241)

## Degree Requirements

- 36 total credits, plus additional credits for the thesis (HNSC 7999) or Dietetic Internship, if so desired
- 6 required courses (18 credits):
  - Nutritional Biochemistry HNSC 7210
  - Micronutrients HNSC 7211
  - Human Pathophysiology HNSC 7213
  - Community Nutrition HNSC 7230
  - Nutrition and Disease HNSC 7241 (prerequisite 7213)
  - Principles of Nutrition Research HNSC 7931
- 6 elective courses (18 credits) chosen from: HNSC 7120 or 7244, 7212, 7221, 7231, 7232, 7233, 7234, 7240, 7243, 7250, 7200 (DI students only), 7201 (DI students only), 7120, 7183, 7935, 7999.
- **During their first year in the program, students should take HNSC 7213 (Fall) and 7931 (Spring).**

Students must maintain a GPA of at least 3.0; failure to do so will place the student on academic probation. Failure to maintain a semester GPA of 3.0 after placement on probation can lead to dismissal from the program. A GPA of at least 3.0 is also required for eligibility to take the comprehensive examination and for graduation. A student may retake courses (up to 6 credits total) for which a grade of F has been received; the new grade will replace the F in calculation of the GPA; the student must submit a form to use of this F Replacement Policy. A grade of INC must be resolved in the following semester or it will become FIN (equivalent to F).

### **Exit Requirement: choice between a comprehensive examination or Master's thesis.**

In addition to completion of course work with a GPA of at least 3.0, students must either pass a comprehensive examination or submit an acceptable M.S. thesis.

The **comprehensive examination** is given in the late Fall and late Spring semesters. The exam consists of questions pertaining to the required courses HNSC 7210, 7211, 7230, 7241 and 7931. Students must complete all five courses with a grade of at least B in order to qualify to take the examination. It is recommended that students complete the required courses early in their programs and take the comprehensive examination soon after. You do not have to complete all 30 credits in order to apply for the examination. Students apply for the exam online:

1. Sign in to the WebCentral Portal at <https://portal.brooklyn.edu>
2. Select the "eServices" tab
3. Look for the "Student Transactions" channel
4. Select the "Apply for a comprehensive exam" item in the Graduate Studies section

Students will receive access to study material posted on Blackboard. Students taking the exam for the first time will pass if the total grade is at least 70%. Students who fail the exam may apply to take the exam **once** again, retaking only the course areas in which the previous score was less than 70%; passing the second time requires a score of at least 70% in EACH of the repeated areas.

Students choosing the **thesis** must first take HNSC 7931, and HNSC 7935 while working with a faculty mentor, submit a thesis proposal and title with the mentor's approval, and register for HNSC 7999 by the time they expect to submit the completed thesis. Once students select the examination (by taking it) or thesis (by registering for HNSC 7999) they may not change to the other option.

Note that students must maintain matriculation (be registered for a course or pay "Maintenance of Matriculation") until completion of the program. That includes the semester(s) in which the student submits the thesis or takes the comprehensive examination. Students with a GPA of at least 3.0 may file for a Leave of Absence for 1-2 semesters; they can be readmitted when returning. Without the Leave or Maintenance of Matriculation, missing a Fall or Spring semester requires Readmission and adherence to the requirements in the **current** Graduate Bulletin at the time of Readmission.

**All requirements for the degree must be completed within seven years** of the time the student begins to take graduate courses. Students must file for graduation with the Registrar before their last semester. STUDENTS ARE STRONGLY ADVISED to read both the general information in the Brooklyn College Graduate Bulletin and the information for the M.S. in Nutrition in the Department of Health and Nutrition Sciences. Students are required to follow the requirements listed in Bulletin that is effect when they begin the program, unless they officially switch to a later version of the Bulletin (or are readmitted, as previously described). Contact the Graduate Deputy Chairperson for Nutrition, Prof. Kathleen Axen: [kaxen@brooklyn.cuny.edu](mailto:kaxen@brooklyn.cuny.edu) for information and counselling.

Courses that may be used to fulfill the requirements for the MS in Nutrition are those courses stated in the graduate Bulletin; that is, courses given at Brooklyn College. Graduate courses completed elsewhere, prior to beginning the M.S. may be submitted for evaluation by the College and the Department for transfer credit.

In addition, students in the M.S. program may apply for an epermit in advance of registering for a course at another (typically CUNY) college. The student must request an epermit for the particular course in question and this permit must be first approved by the graduate deputy for the MS program before you register for the course in question. If you take a course that was not approved for you in advance, it may not count toward fulfillment of your degree requirements.

### **Dietetic Internship:**

In addition to the courses required for admission to the M.S., applicants must complete all requirements of the didactic program in dietetics (DPD, see below) and obtain a signed Verification Statement from their DPD director. Applicants must complete 30 credits in the MS, including all required courses and HNSC 7240 *before* beginning the Dietetic Internship. Students with graduate degrees from elsewhere, and DPD Verification must be accepted into the MS program in Nutrition before beginning the Internship. Applications to the DI are through the Academy of Nutrition and Dietetics ([www.eatright.org](http://www.eatright.org)) matching process.

Students who intend to apply to the Dietetic Internship (DI) must also complete the following undergraduate courses to meet Didactic Program in Dietetic (DPD) requirements. Note that for courses marked (\*), graduate courses may be used to fulfill the content area-- that is, you may use a combination of MS and undergraduate courses to satisfy DPD requirements.

HNSC 2220 (3 cr) Food Science (HNSC 2210 prereq, Chem 1040 pre-or coreq, HNSC 2221 coreq)

HNSC 2221 (1 cr) Food Science laboratory (HNSC 2220 coreq)

\*HNTR 2222 and 2223 (2 cr) Foods of Diverse Populations and Lab (HNSC 2210 prereq, HNSC 2223 co-req)

#### **OR HNSC 7221**

HNSC 2301 (2) Human Physiology Laboratory (2300 co-req)

\*HNSC 3230 (3) Life Cycle Nutrition (HNSC 1100 and 2210 prereqs); **OR HNSC 7231** (Developmental Nutrition),

#### **PLUS HNSC 7232**

HNSC 3250 (4) Institutional Food Service Management (HNSC 2220 and 2221 prereqs)

\*\*HNSC 3270 (1) Professional Development in Nutrition and Dietetics (students beginning as of Fall 2018)  
(Biol 1001, 1002; HNSC 2210, 2300, 3230, 3250 prerequisites)

\*HNSC 4230 (4) Community Nutrition Education (HNSC 3230 prereq); **OR HNSC 7230** (Community Nutrition).

\*HNSC 4213 (4) Vitamins and Minerals (HNSC2210, 3210, 3300 prereq) **HNSC 7211**

\*HNSC 4250 (3) Integrative Nutrition and Functional Foods (Biol1001, 1002, HNSC 2220, 2221, 2210, 2300, 3300 prereqs) **OR HNSC 7250** Integrative and Functional Nutrition

HNSC 4300 (3) Health Care Structure, Policy and Administration (HNSC 4230 pre- or coreq)

\*HNSC 5290 (3) Seminar in Recent Trends in Nutrition (HNSC 2300, 3300, ENG 1012, HNSC 4240 pre- or coreq); **OR HNSC 7931 or 7212** (Recent Developments in Nutrition)

BIO 3003 (3) Microbiology (BIO 1002 prereq)

Once all DPD courses are completed with adequate grades students can be issued a "Verification Statement" to document completion of DPD requirements. Students interested in applying to the Dietetic Internship (DI) accredited by ACEND have completed 30 credits, including all required courses and Health and Nutrition Sciences 7240X, in the MS in Nutrition before applying to the DI.

Prof. Roseanne Schnoll is the Director of the Dietetic Internship. For information on the DPD or DI programs please contact Susan Jakuboski, the Director of the Didactic Program in Dietetics: [sjakuboski@brooklyn.cuny.edu](mailto:sjakuboski@brooklyn.cuny.edu)

## **MS COURSES**

### **HNSC 7120X Epidemiology**

45 hours; 3 credits

Principles and application of epidemiological analysis, illustrations of incidence, distribution, multiple determinants, and control of disease. Methods of investigation. Sources, presentation, and interpretation of data.

Prerequisite: an introductory course in epidemiology or an equivalent course.

### **HNSC 7183X Health Counseling**

45 hours; 3 credits

Application of principles and methods of counseling to health problems. Case studies, identification of problems, techniques of interviewing.

Prerequisite: A course in personal and community health.

### **HNSC 7210X Nutritional Biochemistry**

45 hours; 3 credits

Emphasis on homeostatic mechanisms and hormonal controls of intermediary metabolism on a cellular level. Select topics related to the metabolic diseases and inborn errors of metabolism.

Prerequisite: a course in advanced nutrition and a course in nutritional chemistry or biochemistry or permission of the chairperson

### **HNSC 7211X Micronutrients**

45 hours; 3 credits

Physiological regulation of metabolism of vitamins and minerals; effects of deficiencies and excesses.

Prerequisite: a course in nutrition and a course in biochemistry; or permission of the chairperson.

### **HNSC 7212X Evaluating Nutrition Research**

45 hours; 3 credits

Critical examination of current literature and scientific research in nutrition. Impact of current nutritional developments relating to individual, family, and community well-being.

Prerequisite: Courses in biochemistry, medical nutrition therapy and

statistics, or permission of the chairperson.

### **HNSC 7213X Human Pathophysiology**

45 hours; 3 credits

Etiology, pathogenesis, and clinical manifestations of human diseases that are treated by nutritional therapies.

Prerequisite: a course in human physiology.

### **HNSC 7221X Cultural Aspects of Foods**

45 hours; 3 credits

Foodways, the study of relationships of food and culture. Ethnic, geographic, economic, social, religious influences on food habits and practices of individuals and families.

Prerequisite: a course in food science or nutrition or permission of the chairperson.

### **HNSC 7230X Community Nutrition**

45 hours; 3 credits

Community and public health nutrition with focus on factors affecting food consumption of a community and nutritional problems of select groups. Consumption patterns, assessment techniques, intervention programs, and evaluation of programs (federal, state, and local).

Prerequisite: a course in human nutrition and a course in life cycle, developmental or geriatric nutrition, or permission of the chairperson.

### **HNSC 7231X Pediatric Nutrition**

45 hours; 3 credits

Effects of nutritional factors on development from prenatal growth to adolescence. Topics include: placental transport of nutrients, causes of congenital defects, breast feeding vs. bottle feeding, factors affecting rate of growth and age at puberty, effects of nutritional deficiencies and excesses, and the relationship of nutrients to morphogenetic or biochemical processes.

Prerequisite: a course in advanced nutrition and a course in physiology.

### **HNSC 7232X Geriatric Nutrition**

45 hours; 3 credits

Recent knowledge of nutrition and human aging. Special emphasis on interactions of physiological stages, age, lifestyle, health, disease, and nutrition. Examination of research findings focusing on the relationship of nutrition to the structural and functional changes associated with the aging process.

Prerequisite: a course in nutrition or permission of the chairperson.

### **HNSC 7233X Nutrition and Behavior**

45 hours; 3 credits

The relationship between nutrient deprivation during critical growth periods and interactional and learning deficits and maladaptive behavior patterns. Behavioral disorders and nutrient needs and idiosyncrasies.

Psychodietetics: determinants of psychological reactions to foods and evolving food behavior patterns.

Prerequisite: one course in psychology and a course in human nutrition

and a course in physiology.

### **HNSC 7234X Nutrition and Exercise**

30 hours plus conference; 3 credits

Exploration of human nutritional requirements of exercise; the significance of intermediary metabolic pathways and the effect of dietary manipulation on exercise performance. (This course is the same as PEES 7279X [779X].)

Prerequisite: a course in human or animal physiology and a course in exercise physiology or biochemistry.

### **HNSC 7240X Assessment Techniques and Nutritional Care**

45 hours; 3 credits

Study of the components of nutritional assessment as the initial step in nutrition care process. Emphasis on comparative analysis of dietary intake methods, interpretation of clinical laboratory values, evaluation of anthropometric and body composition methods, retrieval of medical history/physical examination data.

Prerequisite: a course in medical nutrition therapy and Health and Nutrition Sciences 7213X.

### **HNSC 7241X Nutritional Aspects of Disease**

45 hours; 3 credits

Changes in requirements and utilization of nutrients; nutritional status of the individual during pathological states. Disease, malnutrition, and environmental pollution assaults on nutrient metabolism. Methodology and interpretation of recent clinical nutrition research.

Prerequisite: a course in medical nutrition therapy and Health and Nutrition Sciences 7213X or permission of the chairperson.

### **HNSC 7243X Food Policy**

45 hours; 3 credits

A broad approach to food and nutrition policy with a focus on justice and food insecurity; programs that impact food production, distribution, consumption and access; A review of the national, state and local food and nutrition policies that effect industries, labeling, advertising.

Prerequisites: A course in community nutrition, community health course, or permission from the department chair.

### **HNSC 7244X Nutritional Epidemiology**

45 hours; 3 credits

Principles and methods of nutritional epidemiology. Analysis and interpretation of local, national and global food and nutrition data. Critical investigation of the population-level contribution of food and nutrition to health promotion and diet-related disease.

Prerequisites: HNSC 7242X, an introductory course in epidemiology, statistics or an equivalent course, or permission from the department chair.

### **HNSC 7250X Integrative and Functional Nutrition**

45 hours; 3 credits

Introduction to principles guiding the practice of integrative and functional nutrition therapy; patient centered approach; identifying unique nutritional imbalances; supporting detoxification pathways; evaluating the interaction among genetic, environmental and lifestyle factors that impact chronic disease risk.

**HNSC 7931 Principles of Nutrition Research**

45 hours ; 3 credits

Examination of experimental design as applied to nutrition research, including intervention, observational, survey, and animal models. Development of research topics; methods of data collection; interpretation and presentation of results; ethical considerations; application of principles for development of research proposals and evaluation of the nutrition literature.

Prerequisites: advanced coursework in Nutrition and a course in Biostatistics

**HNSC 7935X Research Seminar II**

45 hours; 3 credits

Examination of quantitative and qualitative techniques appropriate for research in the health sciences. Class discussions of each student's efforts in developing a master's thesis. (Not open to students who are enrolled in or have completed Health and Nutrition Sciences 7940X [791.3X] or 7950X [797.1X].)

Prerequisite: Health and Nutrition Sciences 7931X, and a GPA of 3.00 (B) or better in graduate courses completed to date.

**HNSC 7999X Thesis Research**

**3 credits**

Hours to be arranged; 3 credits

Research for master's thesis supervised by a faculty member. Credit is not earned until the thesis is accepted. Students register for this course only once.

Prerequisite: HNSC 7931X or permission of the deputy chairperson

**Typical Schedule of Graduate Nutrition Courses (plan your schedule with the graduate deputy)****Fall Semesters (MS)**

HNSC 7200 Seminar in Nutritional Practice (Dietetic Interns only)

HNSC 7202 Fieldwork in Dietetic Practice I (Dietetic Interns only)

HNSC 7212 Evaluating Nutrition Research (may alternate with 7250)

**HNSC 7213 Human Pathophysiology****HNSC 7230 Community Nutrition**

HNSC 7231 Pediatric Nutrition

HNSC 7931 Principles of Nutrition Research

HNSC 7935 Research Seminar II (First part of Master's thesis sequence)

HNSC 7999 Thesis Research (Second part of Master's thesis sequence)

**Spring Semesters (MS)**

HNSC 7201 Seminar in Clinical Applications of Nutrition Research (Dietetic Interns only)

HNSC 7203 Fieldwork in Dietetic Practice II (Dietetic Interns only)

**HNSC 7210 Nutritional Biochemistry****HNSC 7211 Micronutrients**

HNSC 7221 Cultural Aspects of Food

HNSC 7243 Food Policy

(HNSC 7233 Nutrition and Behavior, under revision)

HNSC 7234/KINS 7279 Nutrition and Exercise

HNSC 7240 Assessment Techniques and Nutritional Care

**HNSC 7241 Nutritional Aspects of Disease**

HNSC 7120 Epidemiology

HNSC 7935 Research Seminar II (First part of Master's thesis sequence)

HNSC 7999 Thesis Research (Second part of Master's thesis sequence)

**Summer Semesters (MS)**

HNSC 7232 Geriatric Nutrition, HNSC 7183 Health Counseling

Possibly HNSC 7234 or 7250

NOTE: The course rotation can be changed without warning and course offerings depend on enrollment, budget, and faculty availability.