

NUTRITIONAL SCIENCES

The Nutritional Sciences major encompasses all aspects of the consumption and utilization of food by people and animals as well as how these processes affect the health of individuals and populations. Nutritional Sciences students study organic chemistry, physics, food science, genetics, nutrition, biology of microorganisms, and diseases.

About this Program

- **College:** Agricultural and Life Sciences (<http://catalog.ufl.edu/UGRD/colleges-schools/UGAGL/>)
- **Degree:** Bachelor of Science
- **Credits for Degree:** 120

To graduate with this major, students must complete all university, college, and major requirements.

Department Information

The Food Science and Human Nutrition Department (FSHN) is one of the world's largest combined academic programs where food science, nutritional sciences, and dietetics are all studied within one department. The department's programs are accredited by the Institute of Food Technologists (IFT) (<http://www.ift.org/>) and the Academy of Nutrition and Dietetics (<http://www.eatright.org/>). After completing undergraduate degrees, FSHN students typically move on to employment in the food industry, healthcare settings, graduate, or professional programs.

Website (<https://fshn.ifas.ufl.edu/>)

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Map (<http://campusmap.ufl.edu/#/index/0475>)

Curriculum

- Dietetics
- Food Science
- Food Science Minor
- Nutritional Sciences
- Nutritional Sciences Minor

The Nutritional Sciences curriculum develops a strong, broad background in the biological sciences, and provides an excellent foundation for graduate study/research in nutrition, health and many other life sciences. Its requirements also closely match the prerequisites for most professional schools. As a result, graduates from this curriculum have entered medical, dental, pharmacy, osteopathic, podiatry, optometry, chiropractic, physician assistant, veterinary, and other professional programs. Other career opportunities include pharmaceutical sales, extension nutrition education, nutrition policy development, and employment with government agencies. Nutritional sciences is one of the majors available to students accepted into the Honors Combination BS/DMD Program.

Critical Tracking

Critical Tracking records each student's progress in courses that are required for progress toward each major. Please note the critical-tracking requirements below on a per-semester basis.

Equivalent critical-tracking courses as determined by the State of Florida Common Course Prerequisites (<https://cpm.flvc.org/advance-search/>) may be used for transfer students.

Semester 1

- Complete CHM 2045/CHM 2045L or MAC 2311
- 2.5 GPA required for all critical-tracking courses
- 2.0 UF GPA required

Semester 2

- Complete CHM 2045/CHM 2045L and MAC 2311
- 2.5 GPA required for all critical-tracking courses
- 2.0 UF GPA required

Semester 3

- Complete CHM 2046/CHM 2046L and BSC 2010/BSC 2010L
- 2.5 GPA required for all critical-tracking courses
- 2.0 UF GPA required

Semester 4

- Complete BSC 2011/BSC 2011L
- 2.5 GPA required for all critical-tracking courses
- 2.0 UF GPA required

Semester 5

- Complete BCH 3025 or BCH 4024
- 2.0 upper division GPA required
- 2.0 UF GPA required

Semester 6

- Complete HUN 3403
- 2.0 upper division GPA required
- 2.0 UF GPA required

Semester 7

- Complete HUN 4445
- 2.0 upper division GPA required
- 2.0 UF GPA required

Semester 8

- Complete HUN 4221
- 2.0 upper division GPA required
- 2.0 UF GPA required

Model Semester Plan

To remain on track, students must complete the appropriate critical-tracking courses, which appear in bold. These courses must be completed by the terms as listed above in the Critical Tracking criteria.

This semester plan represents an example progression through the major. Actual courses and course order may be different depending on the student's academic record and scheduling availability of courses. Prerequisites still apply.

| Course | Title | Credits |
|--|--|-----------|
| Semester One | | |
| CHM 2045 & 2045L | General Chemistry 1 and General Chemistry Laboratory (Critical Tracking ; State Core Gen Ed Biological and Physical Sciences) | 4 |
| MAC 2311 | Analytic Geometry and Calculus 1 (Critical Tracking ; State Core Gen Ed Mathematics) | 4 |
| State Core Gen Ed Composition (http://catalog.ufl.edu/UGRD/academic-programs/general-education/#genedcoursestext); Writing Requirement | | 3 |
| State Core Gen Ed Humanities (http://catalog.ufl.edu/UGRD/academic-programs/general-education/#genedcoursestext) | | 3 |
| Elective | | 1 |
| | Credits | 15 |
| Semester Two | | |
| Quest 1 (Gen Ed Humanities) | | 3 |
| Select one: | | 3-4 |

| | | |
|--|--|--------------|
| AEB 2014 | Current Economic Issues, Food and You (Gen Ed Social and Behavioral Sciences) | |
| AEB 3103 | Principles of Food and Resource Economics (Gen Ed Social and Behavioral Sciences) | |
| ECO 2013 | Principles of Macroeconomics (Gen Ed Social and Behavioral Sciences) | |
| ECO 2023 | Principles of Microeconomics (Gen Ed Social and Behavioral Sciences) | |
| CHM 2046 & 2046L | General Chemistry 2 and General Chemistry 2 Laboratory (Critical Tracking ; Gen Ed Physical Sciences) | 4 |
| Electives | | 4 |
| Credits | | 14-15 |
| Semester Three | | |
| BSC 2010 & 2010L | Integrated Principles of Biology 1 and Integrated Principles of Biology Laboratory (Critical Tracking ; Gen Ed Biological Sciences) | 4 |
| CHM 2210 | Organic Chemistry 1 (minimum grade of C required within two attempts, including withdrawals) | 3 |
| STA 2023 | Introduction to Statistics 1 (Gen Ed Mathematics) | 3 |
| State Core Gen Ed Social and Behavioral Sciences (http://catalog.ufl.edu/UGRD/academic-programs/general-education/#genedcoursestext) | | 3 |
| Gen Ed Composition | | 3 |
| Credits | | 16 |
| Semester Four | | |
| Quest 2 | | 3 |
| BSC 2011 & 2011L | Integrated Principles of Biology 2 and Integrated Principles of Biology Laboratory 2 (Critical Tracking ; Gen Ed Biological Sciences) | 4 |
| CHM 2211 & 2211L | Organic Chemistry 2 and Organic Chemistry Laboratory | 5 |
| HUN 2201 | Fundamentals of Human Nutrition | 3 |
| Credits | | 15 |
| Semester Five | | |
| AEC 3030C | Effective Oral Communication | 3 |
| BCH 3025 or BCH 4024 | Fundamentals of Biochemistry (Critical Tracking) or Introduction to Biochemistry and Molecular Biology | 4 |
| FOS 2040 | Introductory Food Science | 3 |
| PHY 2053 & 2053L | Physics 1 and Laboratory for PHY 2053 | 5 |
| Credits | | 15 |
| Semester Six | | |
| HUN 3403 | Nutrition through the Life Cycle (Critical Tracking) | 2 |
| Select one: | | 3-4 |
| PCB 3063 | Genetics | |
| AGR 3303 | Genetics | |
| MCB 4304 | Genetics of Microorganisms | |
| PCB 4522 | Molecular Genetics | |
| PHY 2054 & 2054L | Physics 2 and Laboratory for PHY 2054 | 5 |
| Electives | | 5 |
| Credits | | 15-16 |
| Semester Seven | | |
| HUN 4445 | Nutrition and Disease: Part 1 (Critical Tracking) | 3 |
| PCB 4723C or APK 2105C | Physiology and Molecular Biology of Animals or Applied Human Physiology with Laboratory | 4 |
| Approved science course | | 3-4 |
| Approved science laboratory | | 1-2 |
| Elective | | 3 |
| Credits | | 14-16 |
| Semester Eight | | |
| AEC 3033C | Research and Business Writing in Agricultural and Life Sciences (Writing Requirement) | 3 |
| HUN 4221 | Nutrition and Metabolism (Critical Tracking) | 3 |
| HUN 4446 | Nutrition and Disease: Part 2 | 3 |
| MCB 3020 & 3020L | Basic Biology of Microorganisms and Laboratory for Basic Biology of Microorganisms | 4 |

| | | |
|----------|----------------------|------------|
| Elective | | 3 |
| | Credits | 16 |
| | Total Credits | 120 |

Additional electives may be needed to complete the 120 credits required for graduation.

Academic Learning Compact

Nutritional Sciences integrates knowledge of biological principles to interpret emerging knowledge of cellular and physiological systems. Students' knowledge of biochemical processes and nutrient functions will enable them to interpret effects of changes in nutrient availability on metabolic functions. Students will utilize their knowledge of nutrient requirements, food sources and physiological systems to determine nutrient and dietary needs of individuals in various life-cycle stages and/or with nutrition-related diseases.

Before Graduating Students Must

- Satisfactorily complete three examinations in HUN 4221. Examinations will be developed, approved and evaluated by a faculty committee.
- Achieve minimum grades of C in AEC 3030C and AEC 3033C. These courses are graded using rubrics developed by a faculty team.
- Complete requirements for the baccalaureate degree, as determined by faculty.

Students in the Major Will Learn to

Student Learning Outcomes | SLOs

Content

1. Use knowledge of nutrient functions, food sources, and physiological systems to determine nutrient and dietary needs of individuals in various life-cycle stages and/or with nutrition-related diseases.
2. Use knowledge of biochemical processes and nutrient functions to interpret effects of changes in nutrient availability.
3. Integrate knowledge of biological principles to interpret emerging knowledge of cellular and physiological systems.

Critical Thinking

4. Analyze data and interpret results in the nutritional sciences.

Communication

5. Create, interpret and analyze written text, oral messages and multimedia presentations used in agricultural and life sciences.

Curriculum Map

I = Introduced; R = Reinforced; A = Assessed

| Courses | SLO 1 | SLO 2 | SLO 3 | SLO 4 | SLO 5 |
|-----------|-------|-------|-------|-------|---------|
| AEC 3030C | | | | | I, R, A |
| AEC 3033C | | | | | I, R, A |
| BCH 3025 | R | R | R | R | |
| HUN 2201 | I | I | I | I | |
| HUN 3403 | R | R | | R | |
| HUN 4221 | A | A | A | | |
| HUN 4445 | R | R | R | R | |
| HUN 4446 | R | R | R | R | |

Assessment Types

- Exams
- Speeches
- Papers