NUTRITIONAL BIOCHEMISTRY AND METABOLISM, BA

Degree: Bachelor of Arts (BA)
Major: Nutritional Biochemistry and Metabolism

Program Overview

Nutritional Biochemistry and Metabolism is the study of nutrients and their metabolic functions. This degree program also prepares the students for graduate studies in nutrition or metabolic research or for further training for careers in medicine, dentistry, and other allied health professions.

The BA in Nutritional Biochemistry and Metabolism is easily combined with majors such as Psychology, Sociology, Chemistry, Biology or Communication Sciences. It will also easily accommodate the requirements of a pre-health curriculum.

Didactic Program in Dietetics

Students interested in applying to dietetic internships must meet specific course requirements (Didactic Program in Dietetics) as required by the Accreditation Council for Education in Nutrition and Dietetics of the Academy of Nutrition and Dietetics. These requirements are met in the courses that comprise the Didactic Program in Dietetics (DPD). A department advisor should be consulted in the first year to plan the dietetics coursework.

The DPD at Case Western Reserve University is currently granted Accreditation by the Accreditation Council for Education in Nutrition and Dietetics of the Academy of Nutrition and Dietetics, 120 South Riverside Plaza, Suite 2000, Chicago, IL 60606-6995, 800.877.1600.

Undergraduate Policies

For undergraduate policies and procedures, please review the Undergraduate Academics section of the General Bulletin.

Accelerated Master's Programs

Undergraduate students may participate in accelerated programs toward graduate or professional degrees. For more information and details of the policies and procedures related to accelerated studies, please visit the Undergraduate Academics section of the General Bulletin.

Program Requirements

Students seeking to complete this major and degree program must meet the general requirements for bachelor's degrees and the Unified General Education Requirements. Students completing this program as a secondary major while completing another undergraduate degree program do not need to satisfy the school-specific requirements associated with this major.

Code	Title	Hours
Required Nutrition Courses:		
NTRN 201	Nutrition	3
NTRN 363	Human Nutrition I: Energy, Protein, Minerals	3
NTRN 364	Human Nutrition II: Vitamins	3
NTRN 397	SAGES Capstone Proposal Seminar	3
NTRN 398	SAGES Senior Capstone Experience	3
NTRN 452	Nutritional Biochemistry and Metabolism	3
Nutrition Electives:		
Choose three NTRN courses at 300-level [a]		9
Additional Required Courses:		
MATH 125	Math and Calculus Applications for Life, Managerial, and Social Sci I	4
or MATH 121	Calculus for Science and Engineering I	
MATH 126	Math and Calculus Applications for Life, Managerial, and Social Sci II	4
or MATH 122	Calculus for Science and Engineering II	
CHEM 105	Principles of Chemistry I	3
CHEM 106	Principles of Chemistry II	3
CHEM 113	Principles of Chemistry Laboratory	2
CHEM 223	Introductory Organic Chemistry I	3
or CHEM 323	Organic Chemistry I	
CHEM 224	Introductory Organic Chemistry II	3
or CHEM 324	Organic Chemistry II	
CHEM 233	Introductory Organic Chemistry Laboratory I	2
CHEM 234	Introductory Organic Chemistry Laboratory II	2
BIOL 214	Genes, Evolution and Ecology	3
BIOL 215	Cells and Proteins	3
BIOL 216	Development and Physiology	3
or BIOL 340 & BIOL 346	Human Physiology and Human Anatomy	
BIOL 216L	Development and Physiology Lab	1
PHYS 115	Introductory Physics I	4
or PHYS 121	General Physics I - Mechanics	
PHYS 116	Introductory Physics II	4
or PHYS 122	General Physics II - Electricity and Magnetism	
BIOC 307	Introduction to Biochemistry: From Molecules To Medical Science	4
BIOC 334	Structural and Computational Biology	3
or BIOC 312	Proteins and Enzymes	
or NTRN 454	Advanced Nutrition and Metabolism: Investigative Methods	
Total Hours		**78**

Didactic Program in Dietetics (DPD) [b]

Code	Title	Hours
Required Courses:		
NTRN 201	Nutrition	3
NTRN 337	Nutrition Communication, Counseling and Behavior Change Strategies	3
or NTRN 437	Nutrition Communication, Counseling and Behavior Change Strategies	
NTRN 342	Food Science	3
NTRN 342L	Food Science Lab	2
NTRN 343	Dietary Patterns	3
NTRN 351	Food Service Systems Management	3
or NTRN 451	Food Service Systems Management	
NTRN 363	Human Nutrition I: Energy, Protein, Minerals	3-4

or NTRN 433	Advanced Human Nutrition I	
NTRN 364	Human Nutrition II: Vitamins	3
or NTRN 434	Advanced Human Nutrition II	
NTRN 365	Nutrition for the Prevention and Management of Disease: Pathophysiology	4
NTRN 550A	Advanced Community Nutrition	3
or NTRN 528	Introduction to Public Health Nutrition	
BIOC 307	Introduction to Biochemistry: From Molecules To Medical Science	4
BIOL 216	Development and Physiology	3
or BIOL 340 & BIOL 346	Human Physiology and Human Anatomy	
BIOL 343	Microbiology	3
CHEM 223	Introductory Organic Chemistry I	3
SOCI 101	Introduction to Sociology	3
ANTH 215	Health, Culture, and Disease: An Introduction to Medical Anthropology	3
or SOCI 311	Health, Illness, and Social Behavior	
Choose one of the following:		*3*
ANTH 319	Introduction to Statistical Analysis in the Social Sciences	
PSCL 282	Quantitative Methods in Psychology	
PQHS 431	Statistical Methods I	
STAT 201	Basic Statistics for Social and Life Sciences	
STAT 243	Statistical Theory with Application I	
STAT 312	Basic Statistics for Engineering and Science	
STAT 313	Statistics for Experimenters	
Nutrition Electives:		
Choose two NTRN courses at 300-level [c]		6
Total Hours		**58-59**

a Excluding NTRN 370.
b Please contact the DPD Director in Department of Nutrition to confirm DPD courses and other requirements.
c Excluding NTRN 341 and NTRN 370.

Sample Plan of Study

First Year

Fall		**Hours**
BIOL 214	Genes, Evolution and Ecology	3
CHEM 105	Principles of Chemistry I	3
CHEM 113	Principles of Chemistry Laboratory	2
MATH 125	Math and Calculus Applications for Life, Managerial, and Social Sci I	4
Academic Inquiry Seminar, Breadth, or Elective course [a]		3
	Hours	**15**
Spring		
BIOL 215	Cells and Proteins	3
CHEM 106	Principles of Chemistry II	3
MATH 126	Math and Calculus Applications for Life, Managerial, and Social Sci II	4
NTRN 201	Nutrition	3
Academic Inquiry Seminar, Breadth, or Elective course [a]		3
	Hours	**16**

Second Year

Fall		
BIOL 216 & 216L	Development and Physiology and Development and Physiology Lab	4
CHEM 223	Introductory Organic Chemistry I	3
CHEM 233	Introductory Organic Chemistry Laboratory I	2
Breadth, or Elective course [a]		3
Elective		3
	Hours	**15**
Spring		
CHEM 224	Introductory Organic Chemistry II	3
CHEM 234	Introductory Organic Chemistry Laboratory II	2
Breadth, or Elective course [a]		3
Elective		6
	Hours	**14**

Third Year

Fall		
BIOC 307	Introduction to Biochemistry: From Molecules To Medical Science	4
NTRN 363	Human Nutrition I: Energy, Protein, Minerals	3
PHYS 115	Introductory Physics I	4
Breadth, or Elective course [a]		3
	Hours	**14**
Spring		
NTRN 364	Human Nutrition II: Vitamins	3
NTRN 397	SAGES Capstone Proposal Seminar	3
PHYS 116	Introductory Physics II	4
Breadth, or Elective course [a]		3
Elective		3
	Hours	**16**

Fourth Year

Fall		
NTRN 398	SAGES Senior Capstone Experience	3
NTRN 452	Nutritional Biochemistry and Metabolism	3
Breadth, or Elective course [a]		3
Nutrition Elective		3
Elective		3
	Hours	**15**
Spring		
NTRN 454	Advanced Nutrition and Metabolism: Investigative Methods	3
Breadth, or Elective course [a]		3
Nutrition Electives		6
Elective		3
	Hours	**15**
	Total Hours	**120**

a Unified General Education Requirement.