BS in Nutrition and Exercise Physiology with Emphasis in Human Physiology and Translational Sciences

Degree Program Description

This degree program is highly multidisciplinary, integrating human physiology, nutrition, pathophysiology, pharmacology, biochemistry, organic chemistry, biology, sociology/psychology, and related areas to gain both a broad and a deep understanding of the determinants of human health and disease. Nutrition and Exercise Physiology spans two academic units (College of Agriculture, Food, and Natural Resources and the School of Medicine), therefore students in this program have access to many researchers and resources represented from each unit. Students selecting this area of study will be well-prepared for health-related professional schools such as Medicine (allopathic and osteopathic), Dentistry, Pharmacy, Physician's Assistant, or graduate study in Biomedical/Translational Sciences.

Our programs also offer significant opportunities for undergraduate research, including an opportunity to apply for paid undergraduate research internship opportunities that span the academic year.

Major Program Requirements

To transfer into the emphasis area: Human Physiology and Translational Science in the nutrition and exercise physiology program after their first semester on campus, students are required to have a minimum overall GPA of 2.65 and be enrolled in at least one required biology, chemistry, physics, or biochemistry course or one required NEP course. All NEP courses require a grade of C- or higher.

Students in this emphasis area may choose to concentrate on either Nutritional Sciences (Option 1) or Exercise Physiology (Option 2).

Students must complete all university requirements (https://catalog.missouri.edu/academicdegreerequirements/universityrequirements/), including general education (https://catalog.missouri.edu/academicdegreerequirements/generaleducationrequirements/), in addition to the degree requirements below.

Science Foundation		
BIO_SC 1500	Introduction to Biological Systems with Laboratory	5
CHEM 1400	College Chemistry I	3
CHEM 1401	College Chemistry I Laboratory	1
CHEM 1410	College Chemistry II	3
CHEM 1411	College Chemistry II Laboratory	1
CHEM 2100	Organic Chemistry I	3
CHEM 2110 & CHEM 2130	Organic Chemistry II and Organic Laboratory I	5
PHYSCS 1210 & PHYSCS 1220	College Physics I and College Physics II	8-10
or PHYSCS 2750 & PHYSCS 2760	University Physics I and University Physics II	
Math and Statistics		
MATH 1400	Calculus for Social and Life Sciences I	3-5
or MATH 1500	Analytic Geometry and Calculus I	
ESC_PS 4170	Introduction to Applied Statistics	3
or ABM 2225	Statistical Analysis	
Communications Requirement		
COMMUN 1200	Public Speaking	3
or AGSC_COM 2220	Verbal Communication in Agriculture, Food and Natural Resources	
Core Curriculum		
BIO_SC 2200	General Genetics	4
BIO_SC 2300	Introduction to Cell Biology	4
BIOCHM 4270	Biochemistry	3
BIOCHM 4272	Biochemistry	3
MPP 3202	Elements of Physiology	5
or BIO_SC 3700	Human Physiology	
MPP 4204	Medical Pharmacology	4
NEP 2340	Human Nutrition I	3
NEP 2450	Nutrition Throughout the Life Span	3
NEP 4400	Pathophysiology of Diseases Affecting Metabolic Health	3
NEP 4950	Capstone: Research in Nutritional Sciences	2
NEP 4951W	Nutrition Research Communication - Writing Intensive	3
Select 1 option from the two below for your remaining classes		
Option 1		
NEP 4340	Human Nutrition II Lecture	3
NEP 4360	Nutritional Assessment	3
NEP 4370	Medical Nutrition Therapy I	3
Option 2		
NEP 1340	Introduction to Exercise and Fitness	3
NEP 3450	Activity Throughout the Lifespan	3
NEP 3850W	Physiology of Exercise - Writing Intensive	3
Professional Electives (a minimum of 8 credit hours)		
AFNR 2191	International Agriculture, Food and Natural Resources - Humanities (Program approved experience only.)	1-6
BIOCHM 4974	Biochemistry Laboratory	5
BIO_SC 3075	The Human Microbiome	3
BIO_SC 4500	Neurobiology	3
BIO_SC 4976	Molecular Biology	3
CHEM 3200	Quantitative Methods of Analysis with Lab	4
F_S 4310	Food Chemistry and Analysis	4
F_S 4370	Food Microbiology	3
MATH 1700	Calculus II	5
or MATH 2100	Calculus for Social and Life Sciences II	
MICROB 3200	Medical Microbiology and Immunology	
or BIO_SC 3750 & BIO_SC 3760	General Microbiology and Microbiology Laboratory	
NEP 2460	Eating Disorders	3
NEP 3360	Nutritional Assessment Lab	3
NEP 4330	Human Nutrition II Laboratory	2
NEP 4550	Exercise is Medicine	2
NEP 4590	Community Nutrition	3
PTH_AS 2201	Human Anatomy Lecture	3

Electives to equal 120 credit minimum

Additional courses may be required to meet college requirements or career objectives. On-campus research internships are available and highly recommended.

Semester Plan

Below is a sample plan of study, semester by semester. A student's actual plan may vary based on course choices where options are available.

First Year			
Fall	**CR**	**Spring**	**CR**
ENGLSH 1000	3	BIO_SC 1500	5
CHEM 1400	3	CHEM 1410	3
CHEM 1401	1	CHEM 1411	1
Hist or Pol Sc	3	COMMUN 1200 or AGSC_COM 2220	3
MATH 1400 or 1500	3-5	Social/Behavioral Science (Psychology class recommended)	3
	13-15		**15**
Second Year			
Fall	**CR**	**Spring**	**CR**
BIO_SC 2200	4	BIO_SC 2300	4
CHEM 2100	3	CHEM 2110	3
NEP 1340 (or Elective)	3	CHEM 2130	2
Writing Intensive Course	3	NEP 2340	3
Humanities (recommend PHIL 2440 Medical Ethics)	3	2000+ Social/Behavioral Science (Sociology course recommended)	3
	16		**15**
Third Year			
Fall	**CR**	**Spring**	**CR**
BIOCHM 4270	3	BIOCHM 4272	3
MPP 3202 or BIO_SC 3700	5	ESC_PS 4170 or ABM 2225	3
NEP 4360 or 3450	3	NEP 2450	3
PHYSCS 1210	4	PHYSCS 1220	4
		Professional Elective	3
	15		**16**
Fourth Year			
Fall	**CR**	**Spring**	**CR**
NEP 4340 or 3850W	3	NEP 4370 (or Elective)	3
NEP 4950	2	NEP 4400	3
MPP 4204	4	NEP 4951W	3
Professional Electives	3	Professional Electives	3
General Elective	3	Humanities	3
	15		**15**

Total Credits: 120-122