

Nutritional Science – Physiology and Metabolism

Undergraduate Student Learning Goals

Brief Overview of the Intent of the Major Program

The Nutritional Science – Physiology and Metabolism Track undergraduate curriculum provides a strong foundation in the chemical, biological, and genomic sciences focusing on regulation of metabolism in mammals. Special emphasis is placed on the effects of nutrients, phytochemicals, and food-derived toxicants in health and disease. The faculty and curriculum foster intellectual development and critical thinking to prepare students as professionals and leaders in the health and bioscience fields.

Specific Learning Goals

- To provide preparation in critical thinking, problem solving, and analytical skills
- To provide insight and in-depth information on the interaction of natural and man-made toxicants with people, and their impact on human health and disease (Depth)
- To provide strong academic preparation for successful contributions to research, education, industry and government, and/or participation in advanced studies in health and biosciences (Breadth)
- To inspire students to advance the health and well being of citizens (Value)

How the Goals Connect to Learning in the Curriculum

<p>Lower Division Science Requirements</p>	<p>Build a foundation in basic sciences and math.</p> <p>Provide a basic introduction to the field.</p> <p>Begin the process of helping the students to integrate the basic sciences with nutritional sciences and prepare students for upper division focus.</p>	<p>Depth Breadth Value</p>	<p>Chem 1A Chem 3A and 3AL Chem 3B and 3BL Bio 1A and 1AL NST 10 Physics 8A Math 16A Statistics 2 MCB 32 and 32L</p>
<p>Upper Division Requirements</p>	<p>Establish the fundamentals of biological chemistry including the logic of metabolic pathways.</p> <p>Establish basic understanding of nutrient digestion, absorption, metabolism and function.</p> <p>Explore advanced topics related to curriculum including mechanisms of metabolic regulation and the relationship of metabolic regulation to human health and disease.</p> <p>Provide an experiential lab course that trains students to use basic techniques to design, execute, and analyze experiments relevant the study of nutrient action and metabolism.</p> <p>Provide an introduction to properties of microorganisms and the interrelationships with humans.</p> <p>Require a matching lab with the microorganisms course.</p> <p>Provide a seminar course that will allow students to synthesise knowledge</p>	<p>Depth Value</p>	<p>MCB 102 NST103 NST150 NST160 NST170 NST190</p>

	gained throughout the curriculum.		
Upper Division Electives	Suggested course work that will help students focus on a specific career goal.	Breadth Value	Upper division biological courses
Capstone Experience	An optional concrete experience (i.e. research project, internship, or service learning opportunity) that requires active participation and a synthesis of knowledge and skills.	Value	NST H196 NST 197 NST 199