

# NUTRITION SCIENCE (NS)

## **NS105: Fundamentals of Nutrition**

This foundational course introduces the core principles of nutrition, laying the groundwork for the nutrition degree program. You will delve into fundamental concepts, terminology, and historical perspectives, including the evolution of the concept of 'food as medicine.' The curriculum covers modern dietary guidelines, essential nutritional requirements, and the role of food in energy provision, nutrient intake, and overall wellness. Additionally, you will explore the basics of digestion, absorption, and energy metabolism, as well as emerging topics like functional nutrition. This course is designed to equip you with a solid understanding of nutrition fundamentals, preparing you for advanced studies and practical application in the field.

Quarter Credit Hours: 5 | Prerequisite: None

## **NS106: Nutrition Profession and Career Planning**

This course introduces you to the diverse career paths within the nutrition field. Throughout the course, you will explore industry standards, scope of practice, key organizations, credentials, and employment prospects related to these career paths. You will also become familiar with Purdue Global's Center for Career Advancement and complete practical exercises to assess occupational skills, reflect on strengths and weaknesses, and set goals for your desired future career path. By the end of the course, you will have a comprehensive understanding of the nutrition profession and be well-prepared to pursue your career goals effectively.

Quarter Credit Hours: 5 | Prerequisite: None

## **NS230: Macronutrient Metabolism**

This course focuses on the essential functions, sources, and health implications associated with each macronutrient: carbohydrates, proteins, and lipids. Through lectures, discussions, and practical applications, you will delve into the intricate processes of macronutrient metabolism. Topics include exploring biochemical pathways, regulatory mechanisms, and the physiological significance of macronutrient metabolism. Special emphasis will be placed on understanding how dietary intake influences energy production and metabolic balance. By the course's conclusion, you will acquire a thorough understanding of how macronutrients sustain life and contribute to overall health.

Quarter Credit Hours: 5 | Prerequisite: NS105

## **NS235: Micronutrient Metabolism**

This course explores the vital roles of vitamins and minerals in health, covering their functions, sources, absorption, and impact on well-being. The course examines both water-soluble and fat-soluble vitamins, as well as major and trace minerals. You will investigate how deficiencies and excesses affect health and how micronutrients contribute to disease prevention and management. Emphasis is placed on personalized dietary guidelines and supplementation, with practical applications through clinical case studies and a micronutrient reference guide.

Quarter Credit Hours: 5 | Prerequisite: NS105

## **NS305: Food Safety**

This course covers the major issues in food safety and sanitation. It includes the basic principles of foodborne illnesses, food allergens, and foodborne pathogens. Management's role in food safety and sanitation is discussed throughout the flow of food. The importance of food safety regulations and employee training is covered. This course prepares you for the ServSafe Food Protection Manager Certification Exam.

Quarter Credit Hours: 6 | Prerequisite: None

## **NS310: Nutritional Assessment**

This course includes a comprehensive introduction to the foundational principles of nutritional assessment, focusing on the ABCDs: anthropometric, biochemical, clinical, and dietary analysis. You will develop skills to obtain anthropometric measurements, interpret conventional and functional laboratory data, analyze physical exam findings for nutrient imbalances, and evaluate dietary patterns.

Quarter Credit Hours: 6 | Prerequisite: None

## **NS313: Foodservice Management - Principles and Practices**

This course provides you with a comprehensive overview of the principles of food safety and management as they relate to the foodservice industry. Specific topics include sanitation, safety, nutrition and menu development, personnel and communications, business management and marketing. This course explores the skills and responsibilities of being a professional Certified Dietary Manager.

Quarter Credit Hours: 6 | Prerequisite: None

## **NS321: Nutrition Planning and Management**

This course addresses nutritional planning for the maintenance of health and wellness. The studies include identification, assessment, and management of nutritional deficiencies occurring due to food choices and pharmacotherapy.

Quarter Credit Hours: 6 | Prerequisite: None

## **NS325: Nutrition Through the Life Cycle**

This course examines the role of nutrition throughout the human lifespan, from preconception and pregnancy to lactation, childhood, adolescence, adulthood, and aging. Each stage is explored in the context of physiological changes and their impact on nutritional needs and considerations.

Quarter Credit Hours: 6 | Prerequisite: None

## **NS335: Nutrition for Special Populations**

Studies in this course emphasize the nutrition and dietetic considerations for healthy individuals with special needs, such as geriatric and gender-specific needs. The coursework includes analyzing nutritional and dietetic needs, and designing appropriate protocols for clients with chronic, progressive, or degenerative diseases and metabolic disorders, as well as for special needs children and infants. The course addresses the underlying principles of total parenteral nutrition and nasogastric tube feeding.

Quarter Credit Hours: 6 | Prerequisite: None

## **NS410: Integrative Nutrition Planning and Management**

This course offers a comprehensive exploration of nutrition planning and management through an integrative and evidence-based approach. You will develop a strong foundation in evidence-informed practice, practical skills, and holistic health management. The course emphasizes the application of effective nutritional and integrative health strategies to promote wellness across diverse populations and address various health conditions.

Quarter Credit Hours: 6 | Prerequisite: NS310 and NS325

## **NS415: Food Science With Lab**

This course complements the student's knowledge of nutrition by presenting the scientific foundation of foods through weekly in-home kitchen preparation of specific recipes that demonstrate the scientific properties of foods. Students explore current food technology and develop a base for additional study in specific areas of food science.

Quarter Credit Hours: 6 | Prerequisite: None

**NS420: Nutritional Counseling**

This course covers the key stages of nutrition counseling, from maintaining accurate counseling notes to safeguarding client information. You'll learn how to build rapport, use motivational interviewing techniques, and guide clients through goal setting and progress tracking to help support their nutritional journey and long-term success.

Quarter Credit Hours: 6 | Prerequisite: NS310 and NS325

**NS425: Sports Nutrition**

This course encompasses the application of physiologic principles, such as protein, carbohydrate, and fat metabolism, to athletic needs and performance. Various loading protocols for phosphates and carbohydrates in relation to athletic events are discussed. Popular performance-enhancing supplements and drugs and the regulatory aspects of their use are addressed in detail.

Quarter Credit Hours: 6 | Prerequisite: None

**NS430: Whole Foods Production**

This course explores various aspects of whole foods, including their production, preservation, transport, storage, and costs. Studies will address geographic, climatic, and societal influences on whole foods production. You will learn strategies to inform and educate producers and consumers of the financial issues, governmental assistance, and alternative methods of whole foods production.

Quarter Credit Hours: 6 | Prerequisite: None

**NS440: Legal and Regulatory Environment in Food Production**

This course covers the legal and regulatory aspects of food production. Studies include major elements in and the rationale behind food labeling. This course further addresses the regulatory agencies and their role in enforcement, and the legal and ethical responsibilities of the food producers, suppliers, and retailers in maintaining a safe food supply. Special attention is given to regulatory aspects of food production relative to livestock handling, and the import and export of food.

Quarter Credit Hours: 6 | Prerequisite: None

**NS445: Public Health Nutrition**

This course provides an overview of public health nutrition, covering nutritional needs across the lifespan and global nutrition challenges. You'll explore how nutrition impacts population health and learn to develop strategies for community well-being. The course includes research methods, nutritional epidemiology, and the creation of effective public health programs. Key topics include food security, cultural competence, and behavior change theories. Practical skills will be developed through real-world case studies and nutrition education program design.

Quarter Credit Hours: 6 | Prerequisite: None

**NS455: Current Trends in Nutrition**

This course provides an in-depth exploration of contemporary nutrition trends, offering you a comprehensive understanding of how nutrition practices and beliefs have evolved and how they continue to shape our health and environment. Through a blend of historical context, current research, and future directions, you will gain insight into the multifaceted world of nutrition trends.

Quarter Credit Hours: 6 | Prerequisite: None

**NS460: Dietary Supplements and Nutraceuticals**

This course provides a comprehensive exploration of dietary supplements and nutraceuticals, delving into their definitions, classifications, and regulatory frameworks. You will also gain in-depth knowledge of herbal supplements, including major classes and specific herbs with therapeutic uses. The course emphasizes evidence-based practice, safety considerations, and the unique needs of different populations. Through practical applications and case studies, you will develop the skills to assess, recommend, and integrate supplements into personalized dietary plans.

Quarter Credit Hours: 6 | Prerequisite: None

**NS465: Functional Nutrition**

This course will provide an overview of functional nutrition principles. It emphasizes a holistic approach to health that addresses the root causes of disease and dysfunction while considering the interconnectedness of body systems. Emphasizing personalized care, you will learn to conduct comprehensive assessments, understand the basics with functional testing, and develop customized nutrition plans that incorporate complementary therapies and evidence-based interventions.

Quarter Credit Hours: 6 | Prerequisite: None

**NS480: Medical Nutrition Therapy I**

This course reviews the nutrition care process and covers metabolic and systemic conditions, focusing on diseases that have a significant impact on overall health and are often managed through dietary changes aimed at improving overall metabolic and hormonal balance.

Quarter Credit Hours: 6 | Prerequisite: NS410 and NS420

**NS490: Medical Nutrition Therapy II**

This course addresses neurological, gastrointestinal, and complex conditions, focusing on more specialized areas that require targeted nutritional strategies for managing symptoms and supporting overall function.

Quarter Credit Hours: 6 | Prerequisite: NS480

**NS499: Bachelor's Capstone in Nutrition**

This capstone course is the culminating experience for the Bachelor of Science in Nutrition. This course builds on the concepts of all the courses you have taken within the program of study. The capstone course provides you with the opportunity to integrate and synthesize the knowledge and skills acquired throughout your coursework in an original comprehensive project, and to assess your level of mastery of the stated outcomes of your degree program in nutrition.

Quarter Credit Hours: 6 | Prerequisite: Last term