

MSACN COURSE DESCRIPTIONS

NUTA 5770 Introduction to the Applied Clinical Training Experience 2 ACTE Practicum Credits

The Applied Clinical Training Experience (ACTE) is a supervised clinical nutrition practicum delivered in adherence with a personalized nutrition care model that supports students in completing the Supervised Practice Experience requirements established by the Board for Certification of Nutrition Specialists. It also advances students' development as competent and caring evidence-based practitioners of personalized nutrition. This introductory course is the first in the series of five courses that make up the ACTE and incorporates orientation and training that prepare students for this clinical experience. Students will complete requirements for practice in Sonoran University's health system including OSHA and HIPAA trainings, training on the effective use of the electronic health record for management of client care, and orientation to the standards, policies, and procedures governing clinical care. Students also participate in an Interprofessional Education experience and will begin to engage in the assessment and care of clients under the supervision of their clinical supervisor.

Prerequisites: Successful completion of Q1 through Q7

Corequisites: NUTC 5750 Clinical applications 4

NUTA 5800 Applied Clinical Training Experience I (Session A) 2 ACTE Practicum Credits

This course is the second in the series of five courses that make up the Applied Clinical Training Experience (ACTE). The ACTE is a supervised clinical nutrition practicum delivered in adherence with a personalized nutrition care model. This clinical experience supports students in completing the Supervised Practice Experience requirements established by the Board for Certification of Nutrition Specialists and advances students' development as a competent and caring evidence-based practitioners of personalized nutrition.

Prerequisites: NUTA 5770

NUTA 5810 Applied Clinical Training Experience II (Session B) 2 ACTE Practicum Credits

This course is the third in the series of five courses that make up the Applied Clinical Training Experience (ACTE). The ACTE is a supervised clinical nutrition practicum delivered in adherence with a personalized nutrition care model. This clinical experience supports students in completing the Supervised Practice Experience requirements established by the Board for Certification of Nutrition Specialists and advances students' development as a competent and caring evidence-based practitioners of personalized nutrition.

Prerequisites: NUTA 5770

NUTA 5900 Applied Clinical Training Experience III (Session A) 2 ACTE Practicum Credits

This course is the fourth in the series of five courses that make up the Applied Clinical Training Experience (ACTE). The ACTE is a supervised clinical nutrition practicum delivered in adherence with a personalized nutrition care model. This clinical experience supports students in completing the Supervised Practice Experience requirements established by the Board for Certification of Nutrition Specialists and advances students' development as a competent and caring evidence-based practitioners of personalized nutrition.

Prerequisites: NUTA 5770

NUTA 5910 Applied Clinical Training Experience IV (Session B) 3 ACTE Practicum Credits

This course is the fifth in the series of five courses that make up the Applied Clinical Training Experience (ACTE). The ACTE is a supervised clinical nutrition practicum delivered in adherence with a personalized nutrition care model. This clinical experience supports students in completing the Supervised Practice Experience requirements established by the Board for Certification of Nutrition Specialists and advances students' development as a competent and caring evidence-based practitioners of personalized nutrition.

Prerequisites: NUTA 5770

NUTC 5110 Nutritional Assessment I: History, Anthropometrics, and Energy

2 Didactic Credits

This course provides instruction on how to conduct a nutrition-focused history and physical examination and how to interpret the findings. Students also learn how to determine a client's energy needs and methods for determining an individual's dietary intake based on caloric values and macro- and micronutrient balance.

Prerequisites: Admission to the program

NUTC 5120 Gastrointestinal Physiology

2 Didactic Credits

This course explores normal human physiology with an emphasis on the physiology of the gastrointestinal tract. Students will learn mechanisms and regulation of motor, secretory, digestive, and absorptive functions of the gastrointestinal tract and how they impact human health. The course also introduces students to microbiomics and the role and application of prebiotics and probiotics in health and disease.

Prerequisites: Admission to the program

NUTC 5130 Nutrition Across the Lifecycle I: Adolescence, Adulthood, and Older Age

2 Didactic Credits

This course explores nutrition across the human lifecycle from adolescence and adulthood through older age. Students learn the primary dietary issues, assessment strategies, and dietary recommendations to support health promotion and disease prevention for each of these lifecycle stages.

Prerequisites: Admission to the program

NUTC 5140 Gastrointestinal Pathophysiology

2 Didactic Credits

This course provides students with essential medical knowledge and a broad understanding of human disease with a focus on the pathophysiology of the gastrointestinal tract. Students will also build upon their understanding of microbiomics and the role and application of prebiotics and probiotics in health and disease.

Prerequisites: Admission to the program

NUTC 5211 Clinical Biochemistry I: Macronutrients, Human Metabolism, and Energy

3 Didactic Credits

This course explores key concepts in human metabolism and energy production by focusing on the structure, function, and metabolism of carbohydrates, lipids, proteins, nucleotides, water, and alcohol. Students learn about the digestion and absorption of these compounds and how to identify signs and symptoms of insufficiency, deficiency, and excess for application in clinical practice.

Prerequisites: NUTC 5120, NUTC 5140

NUTC 5221 Self-care: Role-modeling Health Behaviors**2 Didactic Credits**

This course improves self-care in students to promote personal sustainability and prevent burnout for their well-being as well as for the benefit of their future clients and team members. Through a combination of didactic and experiential learning, students gain an understanding of the importance and impact of self-care practices. An emphasis will be placed on hands-on, practical approaches for making sustainable changes in diet, exercise, stress management, and sleep hygiene to reduce the risk of disease and promote health. As students are empowered with an enhanced capacity for self-care, it is expected that they will be more inclined, and better equipped, to implement these strategies when counseling future clients and/or when leading teams.

Prerequisites: Admission to the program

NUTC 5230 Clinical Biochemistry II: Vitamins and Minerals**2 Didactic Credits**

This course explores key concepts in human metabolism and energy production by focusing on the structure, function, and metabolism of micronutrients: vitamins, macrominerals, and trace/microminerals. Students learn about the digestion and absorption of these nutrients and how to identify signs and symptoms of insufficiency, deficiency, and excess for application in clinical practice.

Prerequisites: NUTC 5120, NUTC 5140

NUTC 5240 Botanicals and Phytonutrients**2 Didactic Credits**

This course introduces students to the biochemical actions, physiologic effects, and clinical application of plants, phytochemicals, and zoonutrients. Students will learn the historical and traditional uses of common botanicals and modern, evidenced-based applications. Pharmacognosy, clinical use, indications, dosage, formulations, and safety considerations will be explored.

Prerequisites: NUTC 5120, NUTC 5140

NUTC 5310 Dietary and Supplement Guidelines, Policies, and Safety**2 Didactic Credits**

This course explores the roles of government agencies in regulating the manufacturing, labeling, and advertising of individual foods and dietary supplements and in regulating overall food systems and the food supply. Students also learn about national and international dietary guidelines, potential sources of food contamination, and best practices associated with the safe handling of food.

Prerequisites: Admission to the program

NUTC 5320 Evidence-Informed Practice and Decision Making**1 Didactic Credit**

This course develops students' information literacy skills by providing instruction on how to critically read, interpret, and apply scientific literature with a specific emphasis on food and nutrition research. Students learn about the hierarchy of evidence, research methodologies, ethics, and data analysis. Upon completion of this course, students will be able to evaluate research findings and apply findings to inform therapies and decisions and substantiate claims.

Prerequisites: Admission to the program

NUTC 5330 Nutrition Across the Lifecycle II: Preconception, Pregnancy, Lactation, Infancy, and Childhood**2 Didactic Credits**

This course explores nutrition across the human lifecycle through preconception, pregnancy, lactation, infancy, and childhood. Students learn the primary dietary issues, assessment strategies, and dietary recommendations to support health promotion and disease prevention for each of these lifecycle stages.

Prerequisites: Admission to the program

NUTC 5340 Dietary Patterns for Health Promotion**2 Didactic Credits**

This course provides instruction on evidence-based dietary patterns to support health and prevent disease. Positive and negative aspects of popular diets (e.g., Mediterranean diet, glycemic index, ketogenic diet, vegan diet, vegetarian diet, paleo diet) and controversial topics in nutrition will be examined. Students will learn how to formulate dietary recommendations for specific individuals to address health-related benefits or concerns and develop a working knowledge of dietary belief systems of commonly encountered ethnic cultures.

Prerequisites: NUTC 5140

NUTC 5410 Nutritional Assessment II: Laboratory**2 Lab Credits**

This course provides instruction in the interpretation of biochemical and laboratory assessments, both standard and functional, to determine nutrient status and metabolic imbalances. Ethical use of select laboratory testing methods will also be explored. Students will learn how to correlate symptoms and lab results to inform recommendations for nutrition interventions.

Prerequisites: NUTC 5110, NUTC 5320

NUTC 5420 Nutrigenomics and Personalized Nutrition**2 Didactic Credits**

This course provides students with a foundational knowledge of nutritional genomics and guidance on how to apply nutrigenomics when developing a personalized nutrition plan. Students will explore current evidence on clinical applications of genetics, epigenetics, and nutrigenomics and the impact of personalized genomics on nutritional biochemistry and human physiology. Upon successful completion of the course, students will receive a Certificate in the Principles of Nutritional Genomics from the American Nutrition Association.

Prerequisites: NUTC 5320, NUTC 5211, NUTC 5230

NUTC 5430 Clinical Applications I: Health Promotion and Disease Prevention**3 Clinical Credits**

This course is an introduction to the virtual health center experience. Students will learn about the scope of practice of clinical nutrition, related regulations, and how to develop effective nutrition care plans and interventions for clients. Clinical cases used will focus on health promotion, disease prevention, and supporting behavioral change at each stage of human development. Students will learn how to monitor client progress and use effective counseling and behavioral modification skills to help motivate and support behavioral change in clients and enhance clinical outcomes.

Prerequisites: NUTC 5110, NUTC 5120, NUTC 5130, NUTC 5140, NUTC 5211, NUTC 5230, NUTC 5320, NUTC 5330, NUTC 5340, NUTC 5410

NUTC 5440 Teaching Kitchen Lab**1 Lab Credit**

The teaching kitchen laboratory helps students translate evidence-based nutritional sciences into practice. Specifically, it allows for hands-on learning of how to prepare foods that promote health and support the management of disease in a manner that is cost-effective, easy, quick, and flavorful. This helps students provide specific dietary counseling to future clients and/or to become role models in practicing smart nutrition and self-care. The goal is to improve students' confidence and competence in providing evidence-based nutritional advice to patients to support sustainable dietary and lifestyle change.

Prerequisites: Admission to the program

NUTC 5550 Clinical Applications II: Chronic Disease**4 Clinical Credits**

This course is a virtual health center experience focused on assessment and nutritional management of chronic, noncommunicable diseases. Students will learn how to apply dietary and nutraceutical interventions for the prevention, modulation, and management of individuals with chronic disorders including obesity, cardiovascular disease, insulin resistance, metabolic syndrome, diabetes, autoimmune disorders, osteoporosis, gastrointestinal disorders, and food allergies, sensitivities, and intolerances.

Prerequisites: NUTC 5430

Corequisites: NUTC 5560

NUTC 5560 Nutritional Interventions for Chronic Disease**4 Didactic Credits**

Students will explore the pathophysiology of common chronic diseases and learn how to apply dietary and nutraceutical interventions for prevention, modulation, and management. Conditions covered in this course include obesity, cardiovascular disease, insulin resistance, metabolic syndrome, diabetes, autoimmune disorders, osteoporosis, gastrointestinal disorders, and food allergies, sensitivities, and intolerances.

Prerequisites: NUTC 5430

Corequisites: NUTC 5550

NUTC 5650 Clinical Applications III: Complex Systemic Disorders**4 Clinical Credits**

This course is a virtual health center experience focused on assessment and nutritional management of complex systemic disorders. Students will learn how to apply dietary and nutraceutical interventions (as indicated) for prevention, modulation, and/or management of individuals with complex systemic disorders including eating disorders; renal, hepatic, pulmonary, cognitive/neurodegenerative disorders; psychological and psychiatric disorders; hormonal and endocrine disorders; and hematologic disorders.

Prerequisites: NUTC 5430

Corequisites: NUTC 5660

NUTC 5660 Nutritional Interventions for Complex Systemic Disorders**4 Didactic Credits**

Students will explore the pathophysiology of select complex systemic disorders and learn how to apply dietary and nutraceutical interventions for prevention, modulation, and management. Conditions covered in this course include eating disorders; renal, hepatic, pulmonary, cognitive/neurodegenerative disorders; psychological and psychiatric disorders; hormonal and endocrine disorders; and hematologic disorders.

Prerequisites: NUTC 5430

Corequisites: NUTC 5650

NUTC 5750 Clinical Applications IV: Co-morbidities and Complex Medical Disorders**4 Clinical Credits**

This course is a virtual health center experience focused on the nutritional management of co-morbidities and complex medical disorders. Students will learn about nutritional therapy in immunocompromised individuals (e.g. cancer, HIV-AIDS, and tuberculosis) and nutritional therapy in compromised individuals (e.g., chemotherapy, radiation, dialysis, and surgical procedures).

Prerequisites: NUTC 5430, NUTC 5550, NUTC 5560, NUTC 5650, NUTC 5660

NUTC 5760 Success Academy**2 Didactic Credits**

This course prepares students for success in the business of clinical nutrition from establishing, marketing, and managing a successful clinical practice to monetizing their knowledge in innovative ways. Diverse career paths, regulations, and practice models will be explored including telemedicine.

Prerequisites: Admission to the program