

Master of Science (MS) in Clinical Nutrition Program

The Master of Science in Clinical Nutrition (MSCN) program transforms students who are passionate about nutrition into leaders and healers in the field of clinical nutrition. Students gain the professional knowledge, skills, and behaviors necessary to develop and implement effective and evidence-based nutrition-related services to support individual and public health. The innovative and 100% online curriculum has been developed with input from experts and thought leaders in the field of nutrition. The MSCN trains students in nutritional sciences, self-care, whole food nutrition, and the responsible use of dietary supplements while also covering emerging topics such as nutrigenomics and microbiomics. Additionally, the program includes a novel Virtual Health Center Experience where students practice applying new skills and knowledge safely in a virtual training environment. Graduates will be prepared for success in private clinical practice or to be employed in integrative practices, community health, or corporate settings. The program also introduces students to innovative ways to leverage their training from developing a telemedicine practice to becoming an entrepreneur in the multi-billion-dollar natural foods and dietary supplement industry. In addition to their MSCN degree, opportunities to earn industry specific certifications are embedded within the curriculum to help students increase their competence and further distinguish themselves in their field.

Program Mission

To educate and inspire the next generation of leaders and practitioners in the field of clinical nutrition to use evidence-based practices to safely, ethically, and effectively enhance the health and well-being of the people and communities they serve.

Scope of Practice

Requirements for the practice of nutrition vary from state to state (and country to country), with a wide range of certification types available. Currently, the state of Arizona has no regulation for Dietetics and Nutrition practice. There is currently no licensure law in this state outlining restrictions and/or regulations for the field of nutrition.

The MSCN program supplements students' existing clinical training/credentials with expertise and an advanced degree in nutrition. Graduates may wish to work as consultants, writers, educators, or business leaders rather than clinicians; still others may opt to go on to earn a PhD or a clinical doctoral degree. This degree program does not lead to additional licensure for practice in the field of nutrition

As of June 2019, fifteen states require a Registered Dietitian (RD) credential to practice and be licensed / registered to practice nutrition and do not offer a pathway to licensure for non-dietitian nutritionists. Thirteen states (including Arizona) do not regulate dietetics and nutrition practice/licensure, and another seventeen states do not regulate dietetics and nutrition practice/licensure but require a physician referral or RD credential to be eligible for insurance reimbursement. Five states require the RD credential to be licensed but offer a pathway to licensure for Certified Nutrition Specialists (CNS).

For current updates on state laws, we recommend visiting the Center for Nutrition Advocacy's website at <http://nutritionadvocacy.org/laws-state>.

SCNM's MSCN program has been developed to meet the eligibility requirement of several national board certifications, most notably the Certified Nutrition Specialist (CNS). SCNM's MSCN program fulfills the didactic requirements to sit for the CNS certification exam offered through the Board for Certification of Nutrition Specialists (BCNS). Before qualifying to sit for the CNS certification exam, applicants must complete 1,000 hours of supervised practice experience. SCNM does not offer this post-graduate experience.

The CNS credential is the most frequent, non-RD credential recognized in state nutrition regulations. The CNS is

- The only non-dietetics credential and examination widely named in state nutrition licensure laws
- Listed by the U.S. Government's Department of Labor as an advanced nutrition credential in the definition of the "Dietetics and Nutritionists" profession in its Occupational Outlook Handbook
- Listed by the Centers for Medicare and Medicaid as among those potentially eligible to order therapeutic diets in hospitals
- Fully accredited by the National Commission for Certifying Agencies (NCCA)

MSCN Program Information

Private professional associations awarding nutrition credentials currently recognized by the National Commission for Certifying Agencies include:

- Board for Certification of Nutrition Specialists (BCNS)
- American Clinical Board of Nutrition (ACBN)
- Commission on Dietetic Registration (CDR)

Both BCNS and CDR are recognized by the U.S. Bureau of Labor Statistics in its Occupational Handbook definition of Dietitians and Nutritionists.

Since certifying organizations may change eligibility requirements, students are advised to contact the appropriate board with any questions and to verify eligibility. Students are advised to also review licensing requirements by state for the most up-to-date information.

Program Learning Outcomes

At the conclusion of the MSCN program, graduates will be able to:

1. Utilize knowledge of nutritional sciences to describe the relationship between nutrients and human health and disease
2. Apply clinical nutrition knowledge, skills, attitudes, and practices to support effective and evidenced-based care of clients
3. Apply critical thinking and analytical skills in the review of nutrition literature and in the nutritional evaluation and management of clients
4. Demonstrate professional leadership and communication skills to cultivate collaboration and effective outcomes in the practice of clinical nutrition
5. Demonstrate ethics and professionalism in client care, in practice management, and in interactions with all other professionals
6. Utilize skills for scholarship and lifelong learning to remain current in the field of clinical nutrition

MS Clinical Nutrition Academic Policies

Satisfactory Academic Progress - Completion

The Master of Science in Clinical Nutrition (MSCN) program is designed to be completed in seven academic quarters. Students who deviate from the standard academic program will extend the length of the program. Satisfactory academic progress in the MSCN program is defined as passing all program requirements within one and one-half (1.5) times the length of the longest published program in which they are enrolled, from initial date of matriculation including any and all leaves of absence and periods of withdrawal followed by re-activation. Generally, this is three years.

Credits transferred from an approved institution count toward the minimum academic requirements to be completed at the end of each academic year (see Minimum Academic Requirements) and count toward the maximum completion time for financial aid. Students must make satisfactory progress toward the completion of their degree at SCNM to be eligible for most financial aid programs.

The Satisfactory Academic Progress Policy for the MSCN program includes a cumulative GPA of 3.0 or higher, academic term minimum academic credits earned per term, and total completion time.

Students who fail to make satisfactory academic progress for their prescribed program of study in any term will be given an academic warning and will be placed on academic probation.

Cumulative GPA Requirement

Students in the MSCN program must maintain a cumulative GPA of at least 3.0.

Minimum Academic Requirements

The following table illustrates the minimum number of credit hours required to be completed at the end of each academic year of the MSCN program.

Academic Year	Total Credits
1	18
2	35
3	52

MS Clinical Nutrition Academic Coursework

The Master of Science in Clinical Nutrition (MSCN) program at SCNM is a cohort-based, online distance learning program that follows a prescribed track. All academic credit is computed in quarter hours (see Credit Equivalence). All students are guided by the curriculum as outlined in their prescribed program of study. Students are pre-registered for all courses. Students may not deviate from their prescribed program of study. SCNM reserves the right to make curriculum changes that are applicable to all students, if necessary.

Course Format / Credit Requirements

The MSCN program consists of 36 didactic credits (432 didactic contact hours) and 15 clinical credits (180 clinical hours). The format of the program is 100% online.

Full-time enrollment is defined as being enrolled for a minimum of 4 credits. Part-time enrollment is defined as being enrolled for a minimum of 2 credits but less than 4 credits.

Credit Equivalence

Courses are reported in quarter credit hours according to the following values:

Didactic	1 credit = 12 contact hours per quarter
Laboratory	1 credit = 12 contact hours per quarter
Clinical	1 credit = 12 contact hours per quarter

Program Length / Completion Timeframe

The MSCN program is designed to be completed in less than two academic years, or seven academic quarters. Students are expected to complete the MSCN program within 12 academic quarters, not to exceed three years from initial date of matriculation, including any and all leaves of absence and periods of withdrawal.

If a student stays on track with the program, taking all courses as they are offered in sequence, students can expect to graduate within 7 consecutive quarters, or just under two calendar years.

MSCN Program of Study

MSCN Program of Study

Program of Study - Year One

Quarter 1		Contact Hours			Total Contact Hours	Total Credit Hours
Course #	Course Title	Clinic	Lab	Didactic		
NUTC 5202	Nutritional assesment I: history, anthropometrics and energy (weeks 1-6)			24.0	24.00	2.0
NUTC 5204	Nutrition across the lifecycle I: adolescence, adulthood and older age (weeks 7-12)			24.0	24.00	2.0
NUTM 5101	Gastrointestinal physiology (weeks 1-6)			24.0	24.00	2.0
NUTM 5103	Gastrointestinal Pathophysiology (weeks 7-12)			24.0	24.00	2.0
Year 1 Quarter 1 Totals		0.0	0.0	96.0	96.00	8.0

Quarter 2		Contact Hours			Total Contact Hours	Total Credit Hours
Course #	Course Title	Clinic	Lab	Didactic		
NUTM 5105	Clinical Biochemistry I: Macronutrients, Human Metabolism, and Energy (weeks 1-6)			36.0	36.00	3.0
NUTM 5107	Clinical Biochemistry II: Vitamins and Minerals (weeks 7-12)			24.0	24.00	2.0
NUTM 5109	Botanicals and Phytonutrients (weeks 7-12)			24.0	24.00	2.0
NUTM 5111	Self-Care: Role-Modeling Health Behaviors (weeks 1-6)			12.0	12.00	1.0
Year 1 Quarter 2 Totals		0.0	0.0	96.0	96.00	8.0

Quarter 3		Contact Hours			Total Contact Hours	Total Credit Hours
Course #	Course Title	Clinic	Lab	Didactic		
NUTC 5206	Nutrition Across the Lifecycle II: Preconception, Pregnancy, Lactation, Infancy, And Childhood (weeks 7-12)			24.0	24.00	2.0
NUTM 5113	Diertary And Supplement Guidelines, Policies, And Safety (weeks 1-6)			24.0	24.00	2.0
NUTM 5115	Dietary Patterns for Health Promotion (weeks 7-12)			24.0	24.00	2.0
NUTM 5117	Evidence Informed Practice and Decision Making (weeks 1-6)			12.0	12.00	1.0
Year 1 Quarter 3 Totals		0.0	0.0	84.0	84.00	7.0

Quarter 4		Contact Hours			Total Contact Hours	Total Credit Hours
Course #	Course Title	Clinic	Lab	Didactic		
NUTC 5208	Nutritional Assessment II: Laboratory (weeks 1-6)		24.0		24.00	2.0
NUTC 5210	Clinical Applications I: Health Promotion and Disease Prevention (weeks 7-12)	36.0			36.00	3.0
NUTM 5119	Nutrigenomics and Personalized Nutrition (weeks 1-6)			24.0	24.00	2.0
NUTM 5121	Teaching Kitchen Laboratory (weeks 7-12)		12.0		12.00	1.0
Year 2 Quarter 4 Totals		36.0	36.0	24.0	96.00	8.0
Grand Totals - Year 1		36.0	36.0	300.0	372.00	31.0

Program of Study - Year Two

MSCN Program of Study

Quarter 5		Contact Hours			Total Contact Hours	Total Credit Hours
Course #	Course Title	Clinic	Lab	Didactic		
NUTC 5212	Clinical Applications II: Chronic Disease (weeks 1-12)	48.0			48.00	4.0
NUTC 5214	Nutritional Interventions for Chronic Disease (weeks 1-12)			48.0	48.00	4.0
Year 2 Quarter 5 Totals		48.0	0.0	48.0	96.00	8.0

Quarter 6		Contact Hours			Total Contact Hours	Total Credit Hours
Course #	Course Title	Clinic	Lab	Didactic		
Winter 2020-2021/Summer 2020-2021						
NUTC 5216	Clinical Applications III: Complex Systemic Disorders (weeks 1-12)	48.0			48.00	4.0
NUTC 5218	Nutritional Interventions for Complex Systemic Disorders (weeks 1-12)			36.0	36.00	3.0
Year 2 Quarter 6 Totals		48.0	0.0	36.0	84.00	7.0

Quarter 7		Contact Hours			Total Contact Hours	Total Credit Hours
Course #	Course Title	Clinic	Lab	Didactic		
NUTC 5220	Clinical Applications IV: Co-Morbidities and Complex Medical Disorders (weeks 1-12)	48.0			48.00	4.0
NUTC 5222	Success Academy (weeks 1-12)			24.0	24.00	2.0
Year 2 Quarter 7 Totals		48.0	0.0	24.0	72.00	6.0
Grand Totals - Year 2		144.0	0.0	96.0	240.00	20.0

Grand Totals		Clinic	Lab	Didactic	Total
Credit Hours		15.00	3.00	34.00	52.00
Contact Hours		180.00	36.00	408.00	624.00

MSCN Course Descriptions

MS Clinical Nutrition Course Descriptions

(Listed in alphabetical order)

All prerequisites presume adherence to the student's Program of Study

NUTC 5119 Nutrigenomics and Personalized Nutrition

(Didactic credits: 2)

This course introduces students to innovative topics in nutrition including functional medicine, nutrigenomics, and personalized nutrition. Student will explore current evidence on clinical applications of epigenetics and nutrigenomics and the impact of personalized genomics on nutritional biochemistry.

Pre-requisite: NUTM 5117. Co-requisite: None

NUTC 5121 Teaching Kitchen Laboratory

(Lab credits: 1)

The teaching kitchen laboratory helps students translate evidenced-based nutritional sciences into practice. Specifically, it allows for hands-on learning of how to prepare foods that promote health and support 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 become a role model of 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.

Pre-requisite: Admission into program. Co-requisite: None

NUTC 5202 Nutritional Assessment I History, Anthropometrics and Energy

(Didactic credits: 2)

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.

Pre-requisite: Admission into program. Co-requisite: None

NUTC 5204 Nutrition across the Lifecycle I: Adolescence, Adulthood and Older Age

(Didactic credits: 2)

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.

Pre-requisite: Admission into program. Co-requisite: None

NUTC 5206 Nutrition across the Lifecycle II: Preconception, Pregnancy, Lactation, Infancy, and Childhood

(Didactic credits: 2)

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.

Pre-requisite: Admission into program. Co-requisite: None

NUTC 5208 Nutritional Assessment II: Laboratory

(Lab credits: 2)

This course provides instruction in 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.

Pre-requisite: NUTC 5202, NUTM 5117. Co-requisite: None

NUTC 5210 Clinical Applications I: Health Promotion and Disease Prevention

(Clinical credits: 3)

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.

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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.

Pre-requisite: NUTC 5202, NUTC 5204, NUTC 5206, NUTC 5208, NUTM 5101, NUTM 5103, NUTM 5105, NUTM 5107, NUTM 5115, NUTM 5117. Co-requisite: None

NUTC 5212 Clinical Applications II: Chronic Disease

(Clinical credits: 4)

This course is a virtual health center experience focused on assessment and nutritional management of chronic, noncommunicable disease. Students will learn how to apply dietary and nutraceutical interventions for 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.

Pre-requisite: NUTC 5210. Co-requisite: NUTC 5214

NUTC 5214 Nutritional Interventions for Chronic Disease

(Didactic credits: 4)

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.

Pre-requisite: NUTC 5210. Co-requisite: NUTC 5212

NUTC 5216 Clinical Applications III: Complex Systemic Disorders

(Clinical credits: 4)

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.

Pre-requisite NUTC 5210. Co-requisite: NUTC 5218

NUTC 5218 Nutritional Interventions for Complex Systemic Disorders

(Didactic credits: 3)

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.

Pre-requisite: NUTC 5210. Co-requisite: NUTC 5216

NUTC 5220 Clinical Applications IV: Co-morbidities and Complex Medical Disorders

(Clinical credits: 4)

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).

Pre-requisite: NUTC 5210, NUTC 5212, NUTC 5214, NUTC 5216, NUTC 5218. Co-requisite: None

NUTC 5222 Success Academy

(Didactic credits: 2)

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 novel health technologies and practice models will be explored including telemedicine.

Pre-requisite: Admission into program. Co-requisite: None

MSCN Course Descriptions

NUTM 5101 Gastrointestinal Physiology

(Didactic credits: 2)

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

Pre-requisite: Admission into program. Co-requisite: None

NUTM 5103 Gastrointestinal Pathophysiology

(Didactic credits: 2)

This course provides students with essential medical knowledge and a broad understanding of human disease with a focus on 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.

Pre-requisite: Admission into program. Co-requisite: None

NUTM 5105 Clinical Biochemistry I: Macronutrients, Human Metabolism, and Energy

(Didactic credits: 3)

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.

Pre-requisite: NUTM 5101, NUTM 5103. Co-requisite: None

NUTM 5107 Clinical Biochemistry II: Vitamins and Minerals

(Didactic credits: 2)

This course explores key concepts in human metabolism and energy production by focusing upon 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.

Pre-requisite: NUTM 5101, NUTM 5103. Co-requisite: None

NUTM 5109 Botanicals and Phytonutrients

(Didactic credits: 2)

This course introduces students to the biochemical actions, physiologic effects, and clinical application of plants, phytochemicals, and zoochemicals. 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.

Pre-requisite: NUTM 5101, NUTM 5103. Co-requisite: None

NUTM 5111 Self-care: Role-modeling Health Behaviors

(Didactic credits: 1)

This course improves self-care in students to promote personal sustainability and prevent burnout for their own 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 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.

Pre-requisite: Admission into program. Co-requisite: None

NUTM 5113 Dietary and Supplement Guidelines, Policies, and Safety

(Didactic credits: 2)

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.

Pre-requisite: Admission into program. Co-requisite: None

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NUTM 5115 Dietary Patterns for Health Promotion

(Didactic credits: 2)

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.

Pre-requisite: NUTM 5103. Co-requisite: None

NUTM 5117 Evidence Informed Practice and Decision Making

(Didactic credits: 1)

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 to substantiate claims.

Pre-requisite: Admission into program. Co-requisite: None