

Nutrition Sciences

The School of Health Professions Department of Nutrition Sciences offers the most comprehensive nutrition education experience you will find on one campus. Everything you need to learn to save lives, prevent disease, and improve quality of life can be found at UAB.

You can study the clinical side of nutrition in the heart of Alabama's top medical center, a dynamic academic campus environment surrounded by highly regarded medical facilities such as UAB Hospital, Birmingham VA Medical Center, and Children's of Alabama. The Department of Nutrition Sciences offers an undergraduate minor in Nutrition Sciences, a Bachelor of Science in Behavioral Nutrition and Wellness, a Master of Science in Nutrition Sciences (multiple tracks available), and a Doctor of Philosophy in Nutrition Sciences.

Master of Science Program in Nutrition Sciences (NS)

Degree Offered:	M.S.
Director:	Dr. Brenda Bertrand
Phone:	(205) 934-8770
E-mail:	brendamb@uab.edu
Web site:	https://www.uab.edu/shp/nutrition/

The MS in Nutrition Sciences provides experiences that foster understanding about nutrition research, health promotion, and disease prevention. Students choose from various track options as described below.

Admission to the Master of Science Program in Nutrition Sciences

The Nutrition Sciences graduate program recommends fall-term entry. Interested students must first obtain admission to the UAB Graduate School. Graduate School admission standards include:

1. A 'B' average computed overall;
2. Evidence of a bachelor's degree from a regionally accredited university or college in the United States or other majors with specified prerequisite courses;
3. GRE Score within the past five years for select tracks (please check with the program for specific track requirements); competitive candidates have a combined GRE score of at least 300 on the verbal and quantitative sections; and
4. Complete a criminal background check and drug screen at program admission and again prior to clinical placement as required by school policy for select tracks. Please check with the program for specific track requirements.

Additional requirement for the Clinical Track/Dietetic Internship Option only:

1. Evidence of a bachelor's degree from a Didactic Program approved by the Accreditation Council for Education in Nutrition and Dietetics (ACEND).

Additional requirement for the Clinical Track/Prior Learning Option only:

1. Verification statement from the Accreditation Council for Education in Nutrition and Dietetics (ACEND) demonstrating successful completion of a Dietetic Internship.

Degree Requirements

The MS in Nutrition Sciences requires successful completion of 14 semester hours in core courses, and additional specific courses for each of the tracks.

Core Requirements

Requirements		Hours
NTR 618	Nutritional Biochemistry	6
NTR 621	Applied Statistics to Nutrition Sciences I	3
NTR 637	Applied Research in Nutrition Sciences	3
NTR 690	Seminar	2
Total Hours		14

Additional Information

Deadline for Entry Term(s):	Fall (June 1), Spring (Nov 1), and Summer (April 1) admission available for Lifestyle Management Disease Prevention Track and Clinical Track/Prior Learning Option)
	Fall - DEP-C Track Jan 15; DEP Track May 15, Research Track Mar 1; Clinical/Dietetic Internship Track June 1
Number of Evaluation Forms Required:	Three
Entrance Tests:	GRE required for Clinical Track/Dietetic Internship Only (TOEFL, IELTS, or PTEA also required for all international applicants whose native language is not English.)

For detailed information, contact:

Dr. Brenda Bertrand, Professor and MS in Nutrition Sciences Program Director

UAB School of Health Professions

Webb Building, Room 534, 1675 University Boulevard, Birmingham, AL 35294-3360

Telephone: 205-934-8770

E-mail: brendamb@uab.edu (miller1@uab.edu)

Website: <https://www.uab.edu/shp/nutrition/>

Master of Science in Nutrition Sciences-Clinical Track/Dietetic Internship

Students in the MS in Nutrition Sciences Clinical Track/Dietetic Internship must complete 48 semester hours of graduate-level coursework (14 semester hours in core courses and 34 semester hours of required track courses). Students are required to complete 1,200 contact hours of supervised professional practice in nutrition and dietetics (NTR 589).

This is a non-thesis track. All non-practicum course work is offered online. Fall term admission only. Only students who have completed

a bachelor's degree from a didactic program approved by ACEND are eligible to apply.

Requirements	Hours
NTR 500 Communications in Nutrition	1
NTR 501 RDN Certification Review	0
NTR 601 Advanced Medical Nutrition	3
NTR 604 Principles and Practice of Nutrition Support	3
NTR 611 Advanced Food System and Resource Management	3
Internship/Practicum	24
NTR 589 Internship Practicum	
Total Hours	34

Clinical Track / Dietetic Internship Accreditation

The Clinical Track / Dietetic Internship is accredited by the Accreditation Council for Education in Nutrition and Dietetics (ACEND) and is designed to prepare entry-level dietitians for careers in a variety of health care, wellness, and community settings. Admission to this track is awarded on a competitive basis through a national matching process using the Dietetic Internship Centralized Application Service (DICAS) portal and D & D Digital. Upon acceptance into the Dietetic Internship, you must then apply to be admitted to the UAB Graduate School.

An onsite internship is offered in Birmingham, and offsite in Huntsville, Mobile, and Montgomery. Upon completion of the program, graduates are eligible to take the national examination to become a Registered Dietitian Nutritionist (RDN).

Additional Information

Requirement	Fulfilled By:
Entry Term(s)	Fall
Deadline for DICAS and D&D Digital:	February 15
Deadline for ALL Application Materials to be in the Graduate School Office:	June 1

For detailed information, contact:

Mrs. Carleton Rivers, Assistant Professor and Director, Clinical Track / Dietetic Internship

Department of Nutrition Sciences, UAB School of Health Professions

Webb Building, Room 540, 1675 University Boulevard, Birmingham, AL 35294-3360

Telephone: 205-934-3223

E-mail: meadows4@uab.edu (dintr@uab.edu)

Website: www.uab.edu/shp/nutrition/education/masters/clinical-track-dietetic-internship

Master of Science in Nutrition Sciences-Clinical Track/Dietetic Internship/MPH Dual Degree

Students in the Dietetic Internship/MPH Dual Degree option must complete 30 semester hours of graduate-level coursework, comprising 26 hours of public health courses and 4 semester hours of NTR 589 to be

applied to the MPH degree, in addition to the requirements of the MS in Nutrition Sciences Clinical Track/Dietetic Internship program described above. All required public health coursework is offered online.

Only students who are enrolled in the MS in Nutrition Sciences Clinical Track /Dietetic Internship are eligible to apply for the dual degree option.

Requirements	Hours
PUH 601 This is Public Health	1
PUH 602 Community Assessment	3
PUH 603 Quantitative Methods in Public Health	3
PUH 604 Programs and Policies	3
PUH 605 Public Health Management and Evaluation	3
PUH 606 Leadership for Evidence-Based Public Health	1
PUH 610 Population Health	3
ENH 690 Environmental Health Perspectives	1
Select one of the following courses	2
ENH 689 Environmental Health Sciences Integrative Learning Experience	
EPI 689 Epidemiology Integrative Learning Experience	
HB 689 Health Behavior Integrative Learning Experience	
NTR 589 Internship Practicum	4
MPH Focus Courses	6
Total Hours	30

For further information about the MPH component of the dual degrees, contact:

Hannah VanSlambrouck, Director of Enrollment Management

University of Alabama at Birmingham School of Public Health

1720 2nd Avenue South, 130 Ryals Public Health Building, Birmingham AL 35294-0022

Telephone: 205-975-8688

E-mail: hannahv@uab.edu

Website: <https://www.uab.edu/soph/home/graduate/programs/mph-ms>

Master of Science in Nutrition Sciences-Lifestyle Management and Disease Prevention Track

Students in the MS in Nutrition Sciences Lifestyle Management and Disease Prevention Track must complete 36 semester hours of graduate-level coursework (14 semester hours in core courses, 19 semester hours of required courses, and 3 semester hours of graduate-level elective coursework). This is a non-thesis track and all coursework is offered online. Prerequisite requirements include successful completion (with a grade of C or higher) in undergraduate courses, in the following subject areas (3 semester hours each): Introductory Nutrition, Biology, Organic Chemistry, Physiology, and Microbiology.

Requirements	Hours
NTR 609 Applied Nutrition for Physical Activity and Disease Prevention	3
NTR 631 Community Interventions for Healthy Lifestyles	3
NTR 632 Nutrition Counseling and Education	4
KIN 644 Application of Exercise Physiology to Fitness and Performance	3

CDS 605	Survival Spanish for Health Professionals	1
GC 545	Genetics and Genomics Applications in Health Care	2
PA 550	Introduction to Medical History Taking and Physical Examination	3
Elective		3
Total Hours		22

Master of Science in Nutrition Sciences-Dietitian Education Program Track

The Dietitian Education Program (DEP) is a Coordinated Program in Dietetics as defined by the Accreditation Council for Education in Nutrition and Dietetics of the Academy of Nutrition and Dietetics. Upon completion of the program, graduates are eligible to take the national examination to become a Registered Dietitian Nutritionist (RDN). There are two program options for the DEP, which include the **DEP Track** and the **DEP Graduate Certificate** of the Lifestyle Management and Disease Prevention Track. Enrollment in each of the tracks is dependent on pre-requisite requirements.

Prerequisite requirements for the **DEP Track** include successful completion (with a grade of C or higher) in undergraduate courses in the following subject areas (three semester hours each): Introductory Nutrition, Biology, Organic Chemistry, Physiology, and Microbiology and completion of the following undergraduate nutrition courses: NTR 222 Nutrition and Health, NTR 232 Lifecycle Nutrition, NTR 320 Nutrition and the Consumer, NTR 330 Nutrition and Metabolism, NTR 420 Nutritional Genetics, and NTR 421 Nutrition Assessment and the Nutrition Care Process.

Only students who are enrolled in the Lifestyle Management and Disease Prevention Track are eligible for the **DEP Graduate Certificate** program.

Students in the Dietitian Education Program must complete 58 hours of graduate-level coursework (14 semester hours in core courses and 44 semester hours of required track courses). Students are required to complete 1,200 contact hours of supervised professional practice in nutrition and dietetics (NTR 670 – 676). This is a non-thesis track and all non-practicum coursework is offered online. Fall term admission only. Students can elect to complete practicum experiences in the Birmingham area, or remotely in their preferred location.

Dietitian Education Program Accreditation

The Dietitian Education Program has been granted Candidacy Status for Accreditation by the Accreditation Council for Education in Nutrition and Dietetics (ACEND). Students enrolled under candidacy status will be considered graduates of an accredited program upon successful completion of the Dietitian Education Program.

Requirements	Hours	
NTR 500	Communications in Nutrition	1
NTR 501	RDN Certification Review	0
NTR 600	Principles of Food Science Operations and Menu Planning	3
NTR 601	Advanced Medical Nutrition	3
NTR 604	Principles and Practice of Nutrition Support	3
NTR 611	Advanced Food System and Resource Management	3
NTR 631	Community Interventions for Healthy Lifestyles	3
NTR 632	Nutrition Counseling and Education	4
NTR 670	Practicum in Wellness	3
NTR 671	Practicum in Community Nutrition	3

NTR 672	Practicum in Food Systems Management	3
NTR 673	Practicum in Medical Nutrition Therapy I	3
NTR 674	Practicum in Medical Nutrition Therapy II	4
NTR 675	Practicum in Dietetic Administration	4
NTR 676	Advanced Practicum in Dietetics	4
Total Hours		44

For detailed information, contact Dr. Lizzy Kroeger, Assistant Professor and DEP Track Director, Department of Nutrition Sciences, UAB School of Health Professions, Webb Building, Room 550, 1675 University Blvd, Birmingham, AL 35294.

Telephone 205-935-6514

Web <https://www.uab.edu/shp/nutrition/education/masters/dietitian-education-track>

Master of Science in Nutrition Sciences-Clinical Track/Prior Learning Option

Students in the MS in Nutrition Sciences Clinical Track/Prior Learning Option must complete 30 semester hours of graduate-level coursework (14 semester hours in core courses, 10 semester hours of required track courses, and 6 semester hours of elective credits). Only students who have a Verification Statement demonstrating successful completion of a dietetic internship program accredited by the Accreditation Council for Education in Nutrition and Dietetics (ACEND) are eligible to apply. This is a non-thesis track and all required coursework is offered online.

Requirements	Hours	
NTR 500	Communications in Nutrition	1
NTR 601	Advanced Medical Nutrition	3
NTR 604	Principles and Practice of Nutrition Support	3
NTR 611	Advanced Food System and Resource Management	3
Electives		6
Total Hours		16

Master of Science in Nutrition Sciences-Research Track

Students in the MS in Nutrition Sciences Research Track must complete 37 semester hours of graduate-level coursework (14 semester hours in core courses, 20 semester hours of required track courses, and 3 semester hours of elective credits). Students in the Research Track are required to complete and orally defend thesis research that contributes to the growing body of knowledge of nutrition sciences (NTR 698 and NTR 699). Most non-research coursework is offered online.

Requirements	Hours	
NTR 623	Applied Statistics to Nutrition Sciences II	3
NTR 636	Scientific Methods	3
NTR 698	Master's Level Non-Thesis Research	2
NTR 699	Master's Level Thesis Research	6
NTR 733	Laboratory Instruments and Methods in Nutrition Research	1
GRD 717	Principles of Scientific Integrity	3
Elective		3
Seminar		2
NTR 788	Advanced Nutrition Seminar	
Total Hours		23

Ph.D. Program in Nutrition Sciences (NS)

Degree Offered:	Ph.D.
Director:	Dr. Paula Chandler-Laney
Phone:	(205) 934-0809
E-mail:	pchandle@uab.edu
Web site:	www.uab.edu/nutrition

The program leading to the Ph.D. in Nutrition Sciences at UAB is designed to provide coursework and research experience that emphasizes the science of nutrition in maintaining the health of individuals and populations and preventing a variety of diseases. The doctoral program combines required and elective didactic coursework in basic sciences and nutrition with research incorporating basic science, clinical applications, and translational research conducted in superb facilities in an outstanding research environment.

Admission for PhD in Nutrition Sciences

To meet Graduate School and departmental standards for admission into the PhD in Nutrition Sciences, a student must have a combined GRE score of 310 (GRE completed within the past 5 years), an undergraduate degree with a strong science background, three letters of recommendation based on thorough knowledge of the applicant's background and abilities, and, of great importance, a statement of goals and purpose that delineates the student's motivation and purpose in seeking this degree.

Coursework and Other Requirements

Successful completion of the Ph.D. will require completion of a minimum of 14 semester hours in core courses (encompassing the disciplines of biochemistry, nutritional biochemistry, statistics, and experimental design) and at least 24 additional graduate semester hours of required and elective coursework from nutrition and other disciplines; passing a comprehensive written qualifying examination; and defense of a dissertation reporting the results of original scientific research that makes a genuine contribution to the knowledge of nutrition sciences. In fulfilling the latter requirement, with rare exceptions, a student must author at least two papers that are publishable in peer-reviewed journals, with one paper for which the student is the first author. In addition, the student must have published two manuscripts, for one of which the student is the first author, prior to defending their dissertation.

Additional Information

For detailed information, contact Dr. Paula Chandler-Laney, Director of the Ph.D. Program in Nutrition Sciences, Department of Nutrition Sciences, UAB School of Health Professions, Susan Mott Webb Nutrition Sciences Building, Room 413, 1675 University Boulevard, Birmingham, AL 35294-3360.

Telephone 205-975-3006

E-mail nutrition@uab.edu (phdntr@uab.edu)

Web www.uab.edu/nutrition

Core Classes must include:

Requirements	Hours
Core Courses:	
NTR 621 Applied Statistics to Nutrition Sciences I	3
NTR 623 Applied Statistics to Nutrition Sciences II	3
NTR 637 Applied Research in Nutrition Sciences	3

NTR 690 Seminar	2
NTR 618 Nutritional Biochemistry	6
Required Courses:	
GRD 717 Principles of Scientific Integrity	3
NTR 733 Laboratory Instruments and Methods in Nutrition Research	2
NTR 636 Scientific Methods	3
NTR 747 Molecular Biology and Nutrition Sciences	3
NTR 779 Obesity in the 21st Century	3
NTR 788 Advanced Nutrition Seminar (Required each Fall and Spring semester for a total of 5 credits)	1
Total Hours	32

Elective classes:

Requirements	Hours
NTR 601 Advanced Medical Nutrition	3
NTR 604 Principles and Practice of Nutrition Support	3
NTR 609 Applied Nutrition for Physical Activity and Disease Prevention	3
NTR 631 Community Interventions for Healthy Lifestyles	3
NTR 632 Nutrition Counseling and Education	4
NTR 722 Recent Advances in Nutrition and Cancer Research	3
NTR 745 Origin of Cancer: Microenviron	1
NTR 750 Body Composition and Energy Metabolism	3
NTR 755 Teaching Practicum in Nutrition Sciences	3
NTR 761 Enhancing Research Productivity Through Intensive Writing	3
NTR 769 Race, Nutrition and Health	3

Courses

NTR 500. Communications in Nutrition. 1 Hour.

This course is designed to enable students to communicate effectively with the public via blogs, media interviews, traditional written education materials, social media, and websites. Emphasis in all of these areas of communication will be on translating scientific evidence into accurate and engaging communications for consumers and the press.

NTR 501. RDN Certification Review. 0 Hours.

Sponsored workshop to prepare students for the Registered Dietitian Nutritionist examination.

NTR 521. Nutrition Assessment and the Nutrition Care Process. 3 Hours.

Introduction to the Nutrition Care Process (NCP), a systematic approach to providing high-quality nutrition care. The NCP provides a framework for critical thinking and decision making. Gain factual knowledge, learn to apply course material through case study application, and explore fundamental principles in medical nutrition related content areas.

Prerequisites: [NTR 222](#) [Min Grade: D] and [NTR 621](#) [Min Grade: C]

NTR 579. Obesity in the 21st Century. 3 Hours.

Overview of the facts and research findings underlying the understanding of obesity, its co morbidities, and its consequences in the population.

NTR 589. Internship Practicum. 1-12 Hour.

Clinical experience in food service management and nutritional care in facilities throughout community; specific objectives vary depending on rotation.

NTR 600. Principles of Food Science Operations and Menu Planning. 3 Hours.

Practice Management and Use of Resources: strategic application of principles of management and systems in the provision of food services to individuals and organizations.

NTR 601. Advanced Medical Nutrition. 3 Hours.

Roles of nutrition in relationship to health; prevention of disease and correction of disorders due to nutritional imbalance throughout life cycle; disease states and their nutritional management; biochemical, clinical, and dietary assessment of nutritional status; drug-nutrient interactions; inborn errors of metabolism.

NTR 604. Principles and Practice of Nutrition Support. 3 Hours.

Critical review of current methods of providing nutrition support for critically ill patients; theory integrated with clinical practice.

NTR 609. Applied Nutrition for Physical Activity and Disease Prevention. 3 Hours.

Theoretical and applied aspects of nutrition for sport performance and health promotion. Provides practical application of evidence-based analysis of topics to promote consumer health.

NTR 611. Advanced Food System and Resource Management. 3 Hours.

Management systems and their application to hospital food service; legal aspects of dietetic practice; quality assurance, departmental planning, and organization.

NTR 612. Research and Technology Applications in Dietetics. 3 Hours.

Utilization of internet technology and research design in dietetics practice.

NTR 618. Nutritional Biochemistry. 6 Hours.

Metabolism and function of nutrients; biosynthesis of vitamins and their cofactors; human requirements for energy, amino acids, minerals, and vitamins; current human nutritional problems.

NTR 621. Applied Statistics to Nutrition Sciences I. 3 Hours.

This course has been designed to introduce students to statistical methods and approaches used to test hypotheses in the field of nutrition. Students will learn statistical tools that will equip them to analyze data, and will apply their knowledge to data sets addressing scientific questions related to nutrition and the application of nutrition to health.

NTR 622. Recent Advances In Nutrition Cancer Research. 3 Hours.

Critical evaluation of effects of genetics and environmental factors, especially nutrients, on development and prevention of obesity, atherosclerosis and cancer.

NTR 623. Applied Statistics to Nutrition Sciences II. 3 Hours.

This course has been designed to expose students to advanced statistical methods and approaches used to test hypotheses in the field of nutrition. Students will learn statistical tools that will include longitudinal data, clustering methods, and treatment of covariates in statistical analyses. The course will equip students to analyze data, and will apply their knowledge to data sets addressing scientific questions related to nutrition and the application of nutrition to health.

Prerequisites: [NTR 621](#) [Min Grade: C]

NTR 625. Human Nutr Through the Life Cy. 3 Hours.

This course will examine the role of nutrition and dietary factors on the growth, development, and maintenance of health throughout the human life cycle. Nutritional guidelines/recommendations, special nutritional needs, physiology, and nutritional health concerns for each stage of the human lifecycle beginning with preconception and continuing throughout adulthood and aging will be addressed.

NTR 626. Consumer Issues in Nutrition. 3 Hours.

This course examines contemporary nutritional issues that affect consumers. Focus will be on the translation of science to public policy, consumer communications, and food choices.

NTR 630. Maternal Child Hlth Ped Nutrit. 4 Hours.

Public health and interdisciplinary approach to pediatric and maternal and child nutrition; translation of evidence based approaches to pediatric nutrition, including prevention and intervention.

NTR 631. Community Interventions for Healthy Lifestyles. 3 Hours.

Community-based strategies for promoting healthy lifestyles through improved eating and physical activity behaviors; emphasis on childhood obesity prevention and intervention; integration of the Life Course model.

NTR 632. Nutrition Counseling and Education. 4 Hours.

Theoretical and applied aspects of nutrition counseling and education. Practical application of counseling strategies to promote consumer health.

NTR 633. Laboratory Instruments and Methods in Nutrition Research. 1-5 Hour.

Individualized instruction in theory and use of laboratory instruments specific to a student's research project.

NTR 636. Scientific Methods. 3 Hours.

Approaches for nutrition investigation; design of experiments and research proposals.

NTR 637. Applied Research in Nutrition Sciences. 3 Hours.

Introduction to research methodologies and application of research related to nutrition and dietetics using practical application of qualitative and quantitative research and evaluation methods in community and health-related settings.

Prerequisites: [NTR 621](#) [Min Grade: C]

NTR 650. Body Composition and Energy Metabolism. 3 Hours.

Methods of measurement of body composition and energy expenditure and their relationship to health and disease.

NTR 666. Nutrition, Mindfulness, and Wellness. 3 Hours.

Exploration of relationship between dietary practices and health; guide to design of individualized health lifestyle practices, including meditation and mindfulness.

NTR 670. Practicum in Wellness. 3 Hours.

This course is designed to give students practical experiences to meet nutrition and wellness needs in a variety of populations. Students will complete wellness activities in campus dining, corporate, healthcare, and school sites. These activities will include developing wellness messages for social media, investigating new wellness and nutrition trends, and practicing counseling/ health coaching skills leading to health behavior change.

NTR 671. Practicum in Community Nutrition. 3 Hours.

Students will apply strategies to meet nutrition needs outside of the acute-care setting with emphasis on cultural competency, effective communication, nutrition education, public policy, program planning and food assistance programs.

NTR 672. Practicum in Food Systems Management. 3 Hours.

This practicum provides supervised experiences that will help students explore issues and topics to develop the skills necessary to manage foodservice systems, including production, inventory control, sanitation and quality management. Emphasis on applications to healthcare facilities.

NTR 673. Practicum in Medical Nutrition Therapy I. 3 Hours.

Students will round with the dietitian to gain competence in the Nutrition Care Process in long-term, in-patient, and out-patient hospital or clinic setting. Students also prepare and present case study reports to become skillful in investigating and discussing these disease states and conditions in professional settings. Students use a clinical log to track the populations they are serving and the disease states and conditions they are treating during this practicum.

NTR 674. Practicum in Medical Nutrition Therapy II. 4 Hours.

Students will work, under the supervision of registered dietitians, in local hospitals (acute care, out-patient) and long-term medical care facilities to assess, diagnose, chart and plan Medical Nutrition Therapy. Students will practice the skills developed in Practicum in Medical Nutrition Therapy I.

NTR 675. Practicum in Dietetic Administration. 4 Hours.

This practicum focuses on the application of management and leadership principles and techniques specific to the provision of nutrition services in foodservice. Students practice the care and operation of equipment, sanitation audits, HACCP Guidelines, budget planning and customer service.

NTR 676. Advanced Practicum in Dietetics. 4 Hours.

This course provides the opportunity for the student to work independently under the supervision of a registered dietitian. The student will demonstrate competence at an entry-level before beginning this experience.

NTR 680. Journal Club in Clinical Nutrition. 1 Hour.

Review, discussion, and critique of current literature in clinical nutrition.

NTR 685. Pediatric Pulmonary Care: An Interdisciplinary App. 1-3 Hour.

Theory and practice of interdisciplinary health care delivery to pediatric clients at risk for or compromised by pulmonary disease by team representing medicine, nutrition, nursing, social work, and physical therapy.

NTR 690. Seminar. 2 Hours.

Review of current literature and research in nutrition.

NTR 691. Clinical Practicum: Nutritional Aspects of Children with Intellectual Disabilities. 1-6 Hour.

Evaluation of nutritional status, feeding behavior, and food habits of children with intellectual disabilities; nutritional care; functioning in interdisciplinary team; field trips to agencies serving children with intellectual disabilities.

NTR 692. Clinical Practicum: Community Nutrition. 1-6 Hour.

Clinical experiences in health care delivery systems with nutrition components; methods of determining nutritional status of most vulnerable groups; nutrition education of community; current community nutrition issues; food fads, weight control, food misinformation, and nutrition legislation.

NTR 693. Clinical Practicum: Pediatric Nutrition. 1-6 Hour.

Clinical experiences in normal growth patterns in children; nutritional needs in health and disease; medical problems of pediatric patients; diet therapy.

NTR 694. Clinical Practicum: General Clinical Research. 1-6 Hour.

Clinical experiences in a multi-disciplinary research facility involving human subjects.

NTR 695. Special Topics in Nutrition. 1-4 Hour.

Exploration of current issues in Nutrition Sciences.

NTR 696. Clinical Practicum: Nutr Support of Pediatric Clin. 1-6 Hour.

Observation of and participation in interdisciplinary team delivery of health care to pediatric patients with pulmonary disease; variety of settings utilized, including neonatal intensive care, medical/surgical pediatric acute care, and pediatric pulmonary clinics; emphasis on optimizing nutritional support to pediatric patients with pulmonary dysfunction.

NTR 697. Clinical Practicum: Nutrition Support Service. 3-6 Hours.

Observation of and participation in interdisciplinary team delivery of nutrition support to critically ill hospitalized patients and ambulatory patients.

NTR 698. Master's Level Non-Thesis Research. 1-6 Hour.

Project designed to meet student's particular interest in nutrition and dietetic field; review of current literature; limited research and paper required.

NTR 699. Master's Level Thesis Research. 1-9 Hour.

Projects designed individually to meet student's particular interest within nutrition and dietetic field; emphasis on research approach to problem solving, including review of current literature in topic area.

Prerequisites: GAC M

NTR 701. Advanced Medical Nutrition. 3 Hours.

Role of nutrition and its relationship to health, prevention of disease, and correction of disorders due to nutritional imbalance throughout the life cycle. Emphasis on nutrition assessment and current research, including biochemical clinical, dietary, and anthropometric measurements.

NTR 704. Principles and Practice of Nutrition Support. 3 Hours.

Critical review of current methods of providing nutrition support for critically ill patients; theory integrated with clinical practice.

NTR 708. Nutrition Immunity and Infection. 3 Hours.

Impact of nutrition on immune function and effects of infection on nutritional status.

NTR 711. Clinical Nutrition. 4 Hours.

Nutritional biochemistry, nutrient requirement, sources, toxicities. Nutritional aspects of growth, development, pregnancy, chronic diseases, and the hospitalized patient.

NTR 718. Nutritional Biochemistry. 6 Hours.

Metabolism and function of nutrients; biosynthesis of vitamins and their cofactors; human requirements for energy, amino acids, minerals, and vitamins; current human nutritional problems.

NTR 720. Trace Elements in Human Nutrition I. 2 Hours.**NTR 721. Trace Elements in Human Nutrition II. 2 Hours.****NTR 722. Recent Advances in Nutrition and Cancer Research. 1-3 Hour.**

Review of recent advances in nutrition and cancer research; emphasis on advances in biomarkers of nutritional exposure; modification of cancer risk by gene-nutrient interactions.

NTR 723. Assessment of Nutritional Status in Populations. 3 Hours.

Theoretical and hands-on instruction in methods of assessment of dietary intakes, body composition, and biochemical levels of macro- and micronutrients. Proper techniques for collecting measurements and review of computer software packages that specialize in analysis of specific measurements.

NTR 724. Research Strategies for the Study of Diet, Energetics and Cancer. 2 Hours.

Overview of dietary, physical activity, nutritional status, and body composition assessment as applied to research design and implementation of cancer-related studies in both animals and humans.

NTR 725. Human Nutr Through Life Cycle. 3 Hours.

Nutritional guidelines/recommendations, special nutritional needs, physiology, and nutritional health concerns for each stage of human lifecycle beginning with preconception and continuing throughout adulthood and aging will be addressed.

NTR 726. Consumer Issues in Nutrition. 3 Hours.

This course examines contemporary nutritional issues that affect consumers. Focus will be on the translation of science to public policy, consumer communications, and food choices.

NTR 728. Cancer Prevention and Control Seminar. 1-3 Hour.

Presentations related to cancer prevention and control and participation on cancer research review boards. Required for pre- and post-doctoral fellows in the NCI-supported R25 Cancer Prevention and Control Training Program.

NTR 733. Laboratory Instruments and Methods in Nutrition Research. 1-5 Hour.

Instruction in theory and use of selected laboratory instruments (selected according to student's need related to research project).

NTR 734. Laboratory Methods in Vitaminology. 3 Hours.

Vitamin determinations in clinical and other specimens: theory; procedures; practical exercises.

NTR 736. Scientific Methods. 3 Hours.

This course is designed to provide the students with the knowledge necessary to plan, design, and undertake research on topics related to nutrition science.

NTR 737. Research Concept Development. 1 Hour.**NTR 738. Human Investigations: Ethics Rights and Regulations. 1 Hour.**

Procedures, regulations, and ethics pertaining to conduct of human investigations, informed consent, human use committees, internal review boards.

NTR 742. Nutritional and Toxicological Aspects of Food Safe. 2 Hours.**NTR 743. Macronutrients. 3 Hours.****NTR 744. Vitamins: Nutritional Clinical and Biochemical A. 2 Hours.****NTR 745. Origin of Cancer: Microenviron. 1 Hour.**

This course is a journal club that will provide insights into the importance of the matrix microenvironment in tumorigenesis. Tumorigenesis is the process by which initiated cells form tumors.

NTR 746. Nutritional Aspects of Aging. 2 Hours.**NTR 747. Molecular Biology and Nutrition Sciences. 3 Hours.**

Overview of molecular biology applications in nutrition science research. Examination of basic molecular biology techniques, current usage of molecular biology to solve nutrition problems, and application of biotechnology to study disorders with nutritional component.

NTR 750. Body Composition and Energy Metabolism. 3 Hours.

Methods of measurement of body composition and energy expenditure and their relationship to health and disease.

NTR 755. Teaching Practicum in Nutrition Sciences. 3 Hours.

Students will apply the concepts that they learned from the graduate teaching certificate program of UAB Center for the Integration of Research, Teaching and Learning (CIRTL) to formal teaching instruction. Students will serve as co-teachers, working with a Nutrition Science faculty course-master to participate in teaching activities of a specified course.

NTR 760. Foundations of Nutrition Research. 1 Hour.**NTR 761. Enhancing Research Productivity Through Intensive Writing. 3 Hours.**

Instruction and practice in techniques for developing publishable manuscripts, including establishing consistent and sustainable writing habits, improving the quality of writing, seeking and incorporating feedback from mentors and co-authors, identifying appropriate statistical approaches for research questions, and responding to reviewers/editors comments for revision or rejection.

NTR 769. Race, Nutrition and Health. 3 Hours.

Introduction to the identification, measurement and exploration of etiological factors that underlie racial/ethnic disparities in health outcomes.

NTR 778. Special Topics in Nutrition Sciences. 1-5 Hour.**NTR 779. Obesity in the 21st Century. 3 Hours.**

General overview of the facts and research findings underlying the understanding of obesity, its co morbidities, and its consequences in the population.

NTR 788. Advanced Nutrition Seminar. 1 Hour.**NTR 789. Diabetes and Energy Metabolism Seminar.. 1 Hour.**

Discussions on the latest research involving energy metabolism issues with diabetes through the presentation and discussion of scientific peer-reviewed articles.

NTR 791. Advanced Clinical Nutrition Diagnosis and Treatments. 4 Hours.

Clinical rounds with nutrition support team; clinical nutrition research procedures related to human nutrition.

NTR 798. Doctoral Level Non-Dissertation Research. 1-15 Hour.**NTR 799. Doctoral Level Dissertation Research. 1-15 Hour.**
Prerequisites: GAC Z