

# Nutrition Sciences

The School of Health Professions Department of Nutrition Sciences offers a comprehensive education in nutrition. Our programs teach you how to prevent and manage nutrition-related diseases using evidence-based recommendations. This approach supports disease prevention, treatment, and improves the quality of life for individuals and communities.

Some tracks include clinical experiences in nutrition, which can be completed in Birmingham or throughout the United States. Birmingham is home to Alabama's top medical center, a vibrant academic campus surrounded by renowned facilities like 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 Biobehavioral Nutrition and Wellness
- A Master of Science in Nutrition Sciences (with multiple tracks)
- A Doctor of Philosophy in Nutrition Sciences

## Master of Science in Nutrition Sciences

Degree Offered:	M.S.
Director:	Dr. Brenda Bertrand
Phone:	(205) 934-8770
E-mail:	<a href="mailto:brendamb@uab.edu">brendamb@uab.edu</a>
Web site:	<a href="https://www.uab.edu/shp/nutrition/education/masters">https://www.uab.edu/shp/nutrition/education/masters</a>

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. Admission standards include:

1. Evidence of a minimum of a bachelor's degree from a regionally accredited university or college in the United States or other majors with specified prerequisite courses;
2. 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 in Dietetics (DPD) 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
<b>Total Hours</b>	<b>14</b>

## Additional Information

Deadline for Entry Term(s):	Fall (June 1), Spring (Oct 1), and Summer (March 1) admission available for Lifestyle Management Disease Prevention Track and Clinical Track/Prior Learning Option
	Fall - DEP-C Track January 5; DEP Track February 1, Research Track June 1; Clinical/Dietetic Internship Track February 1
Number of Evaluation Forms Required:	Three
Entrance Tests:	TOEFL, IELTS, PTEA, Duolingo, or IELA is required for all international applicants whose native language is not English for applicable tracks

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](mailto:brendamb@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 1,000 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 in dietetics 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
<b>Internship/Practicum</b>		<b>24</b>
NTR 589	Internship Practicum	
<b>Total Hours</b>		<b>34</b>

## 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 the Dietetics Inclusive Centralized Application Service (DICAS) portal. 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:	February 1
Deadline for the application to the Graduate School: Accepted students only	June 1

For detailed information, contact:

**Dr. Keith Pearson, Associate Professor and Director, Clinical Track/Dietetic Internship**

**Department of Nutrition Sciences, UAB School of Health Professions**

**Webb Building, Room 603, 1675 University Boulevard, Birmingham, AL 35294-3360**

**E-mail: [pearson2@uab.edu](mailto:pearson2@uab.edu)**

**Website: [www.uab.edu/shp/nutrition/education/masters/clinical-track-dietetic-internship](http://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 27 hours of public health courses and 3 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	2
EPI 689	Epidemiology Integrative Learning Experience	3
HB 689	Health Behavior Integrative Learning Experience	2
NTR 589	Internship Practicum	3
MPH Elective Courses		7
<b>Total Hours</b>		<b>37</b>

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

**Meghan Walker**

**Program Manager, Population Health & Coordinated Degree Programs**

**University of Alabama at Birmingham School of Public Health**

**1720 2<sup>nd</sup> Avenue South, 130 Ryals Public Health Building, Birmingham AL 35294-0022**

**Telephone: 205-934-2684**

**E-mail: [mewalker@uab.edu](mailto:mewalker@uab.edu) @uab.edu ([mewalker@uab.edu](mailto:mewalker@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
<b>Total Hours</b>	<b>22</b>

## 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 (ACEND) of the Academy of Nutrition and Dietetics (AND). 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 1,000 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.

Admission into this track is awarded on a competitive basis through the Dietetics Inclusive Centralized Application Service (DICAS) portal. Upon acceptance to the DEP, you must then apply to the UAB Graduate School.

### Dietitian Education Program Accreditation

The Dietitian Education Program is accredited by the Accreditation Council for Education in Nutrition and Dietetics (ACEND).

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
<b>Total Hours</b>		<b>44</b>

For detailed information, contact:

**Dr. Lizzy Davis, Assistant Professor and Director, DEP Track**  
**Department of Nutrition Sciences, UAB School of Health Professions,**

**Webb Building, Room 550, 1675 University Blvd.,**  
**Birmingham, AL 35294**

**Telephone 205-935-6514**

**E-Mail [kroeger@uab.edu](mailto:kroeger@uab.edu)**

**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 (DI) or a Coordinated Program (CP) 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
<b>Total Hours</b>		<b>16</b>

## 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
<b>Seminar</b>		<b>2</b>

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:	<a href="mailto:pchandle@uab.edu">pchandle@uab.edu</a>
Web site:	<a href="http://www.uab.edu/nutrition">www.uab.edu/nutrition</a>

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 an undergraduate degree with a 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. Application deadline is December 1.

### 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 46 additional graduate semester hours of required and 12 semester hours of elective coursework from nutrition and other disciplines; passing a comprehensive written and oral 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, the student must include 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 in peer-reviewed journals, one for 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](mailto:nutrition@uab.edu) ([phdntr@uab.edu](mailto:phdntr@uab.edu))Web [www.uab.edu/nutrition](http://www.uab.edu/nutrition)

## Core Classes must include:

Requirements		Hours
Core Courses:		
NTR 621	Applied Statistics to Nutrition Sciences I	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 736	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
<b>Total Hours</b>		<b>29</b>

## Elective classes:

Requirements		Hours
Select 12 credit hours of elective coursework		
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 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

## Graduate Certificate in Nutrition for Community Health

Requirements		Hours
NTR 632	Nutrition Counseling and Education	4
NTR 631	Community Interventions for Healthy Lifestyles	3
NTR 618	Nutritional Biochemistry	6
NTR 609	Applied Nutrition for Physical Activity and Disease Prevention	3
<b>Total Hours</b>		<b>16</b>

## 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: C]

**NTR 565. Advanced Nutritional Physiology and Integrative Metabolism. 3 Hours.**

Advanced instruction on the integrative physiologic and metabolic responses to differing diets and dietary practices.

**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 617. Herbs and Spices in Nutrition Sciences. 3 Hours.**

Herbs and spices have been components of human diets via culinary traditions for thousands of years. This course will focus on approximately two dozen popular herbs and spices, considering bioactive ingredients and proposed mechanisms of action for nutrition- and health-focused outcomes. Evidence-based evaluations of health and wellness claims will be considered from the published literature, alongside the purported dietary and culinary benefits of herb and spice use.

**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 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 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 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 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 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 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 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 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.**

Practice key concepts and skills necessary to conduct research. Topics will include review and synthesis of the literature, formulating a research question, evaluation of data, effective written and verbal communication.

**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.**

Special topics in Nutrition Sciences.

**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 798. Doctoral Level Non-Dissertation Research. 1-15 Hour.****NTR 799. Doctoral Level Dissertation Research. 1-15 Hour.**

**Prerequisites:** GAC Z