

NUTRITION (NTR)

NTR 101 Find Your Way in Nutrition 1

This course will promote cohesiveness among first year Nutrition students and Nutrition faculty, relay information regarding the multiple paths available to and job opportunities for Nutrition graduates, and orient students to and help familiarize them with the department.

Prerequisites: Must be enrolled in one of the following Fields of Study (Major): Nutrition.

Notes: Grade: Pass/Not Pass (P/NP).

NTR 103 Introduction to Food Science 3

Basic scientific principles of food preparation with emphasis upon the science of food, standards of selection, purchasing, preparation, storage, preservation, and sustainability.

NTR 203 Basic Quantitative Principles in Food and Nutrition 1

Basic quantitative principles of food production, food service operation, menu planning, food portioning, and menu costing developed through activities that stress adapting standard recipes, measurement conversions, developing basic culinary costing techniques, and use of nutrition-related calculations.

Prerequisites: Grade of C- or better in MAT 115 or MAT 118. NUTR major or minor; Pr. or Coreq.: NTR 103.

NTR 213 Introductory Nutrition 3

Basic principles of human nutrition with emphasis on the nutrients and factors which affect their utilization in the human body.

MAC: MAC Health and Wellness

NTR 282 Introduction to Dietetics 2

An overview of dietetics profession that will cover scope of practice, code of ethics, resources for evidence based practice, professional organizations, career options, professional development, and professional trends.

Prerequisites: Nutrition major.

NTR 302 Nutrition Education and Application Processes 3

Study of communication of nutrition science through nutrition education, professional literature, and public media. Evaluation and use of professional and scientific literature in nutrition and food systems.

Prerequisites: Grade of C (2.0) or better in NTR 213. Grade of C- or better in ENG 101; Written permission required.

NTR 304 Fundamentals of Culinary Medicine 3

Students learn practical skills to apply nutrition concepts that may impact their own life and those around them through culinary medicine principles bridging the gap between nutrition science and healthy, delicious cooking.

Prerequisites: NTR 213 with a grade of C or higher.

NTR 309 Quantity Food Procurement and Production 3

Procurement and production of quantity foods with an emphasis on menu planning, pre-preparation, service, sanitation, delivery systems, selection, use, and care of quantity-food equipment.

Prerequisites: Grade of C (2.0) or better in NTR 203. Written permission required;

Corequisites: NTR 309L.

Notes: Professional liability insurance required.

NTR 309L Qty Food Procurement / Prod Lab 0

NTR 313 Nutrition Throughout the Life Cycle 3

Principles of nutrition applied to meet the nutrient needs at different stages of the life cycle. Forces governing food availability, acceptability, nutritive quality and safety are stressed in the preparation of nutritional plans for individuals and groups.

Prerequisites: Grade of C (2.0) or better in NTR 213 or permission of instructor .

NTR 400 Supervised Professional Experience 1-4

Supervised professional experience in selected commercial or industrial organizations, public or private agencies in accordance with the major course of study of the student.

NTR 401 Special Problems in Nutrition 1-4

Individual study. Conference hours to be arranged.

NTR 403 Food Science and Technology 2

Lecture covering experimental study of factors regulating the preparation of standard food products and review of current developments in food technology.

Prerequisites: Grade of C (2.0) or better in NTR 103, NTR 203, NTR 213, NTR 302. Grade of C- or better in CHE 110 and CHE 101 or CHE 103 or CHE 111; Written permission required;

Corequisites: NTR 403L.

NTR 403L Food Science and Technology Laboratory 1

Laboratory covering experimental study of factors regulating the preparation of standard food products and review of current developments in food technology.

Prerequisites: Grade of C (2.0) or better in NTR 103, NTR 203, NTR 213, and NTR 302. Grade of C- or better in CHE 110 and CHE 101 or CHE 103 or CHE 111;

Corequisites: NTR 403.

Notes: All types of foods will be prepared and taste tested for sensory evaluation throughout the course and student grades will be based on participation in this course requirement.

NTR 413 Intermediate Nutrition 3

Intermediate approach toward understanding energy metabolism with an emphasis on mechanisms that regulate fuel intake, storage and utilization during normal and altered states of energy demands.

Prerequisites: Grade of C (2.0) or better in NTR 213. Grade of C- or better in BIO 111, BIO 277 or KIN 292, CHE 103, CHE 104.

NTR 421 International Nutrition and Cultural Foods 3

This course examines issues related to food insecurity and malnutrition in developing countries. Diet and food choices are explored in the context of culture, religion, and geographical conditions.

Prerequisites: NUTR major or minor. grade of C (2.0) or better in NTR 213 and NTR 313.

NTR 423 Community Nutrition 3

Current community nutrition trends with emphasis on community services, government projects, and grant proposal writing. Students will engage in community service work to gain experience with important community issues.

Prerequisites: NUTR major or minor. grade of C (2.0) or better in NTR 213, NTR 302, and NTR 313; or permission of instructor .

NTR 426 Management Practices for Dietetics 3

Management practices and administration within foodservice and clinical dietetics settings. Operational assessment, evaluation, and cost control related to foodservice systems in commercial and noncommercial settings.

Prerequisites: Grade of C (2.0) or better in NTR 309 .

NTR 427 Undergraduate Research 2-6

Individual study.

Prerequisites: GPA of 3.0 in nutrition, biology, and chemistry courses, or permission of the instructor.

Notes: May be repeated for credit if topic changes.

NTR 431 Nutrition and Human Metabolism 4

Structure, function, and metabolism of nutrients and related compounds; integration of nutrient metabolism at the cellular level with total body function; practical application of basic principles of nutrient metabolism.

Prerequisites: Minimum grade of C in NTR 413. minimum grade of C- in BIO 277 or KIN 292, and CHE 103 (or CHE 111); CHE 104 (or CHE 114); CHE 110 (or CHE 112); CHE 205 (or CHE 351 and CHE 352); CHE 206 (or CHE 354); or their equivalents as determined by the instructor.

NTR 450 Nutrition Assessment 3

Assessment of nutritional status of healthy and ill persons before initiation of medical nutrition therapy.

Prerequisites: Grade of C (2.0) or better in BIO 277 or KIN 292. completion of NTR 213, NTR 313, and NTR 413.

NTR 453 Child and Adolescent Nutrition 3

Nutritional needs of children and adolescents; methods of evaluating nutritional status of these groups; effects of nutrition on development.

Prerequisites: Grade of C (2.0) or better in NTR 213 or equivalent, and BIO 277 or equivalent.

NTR 460 Advanced Nutrition 4

Biochemical and physiological aspects of nutrient metabolism and utilization. Nutrient metabolism, flux, and requirements during the lifecycle and during fed/fasted states will be discussed, with emphasis on mechanisms that regulate these processes.

Prerequisites: Grade of C or better in NTR 313, NTR 413, NTR 431. Grade of C- or better in BIO 277 or KIN 292, or equivalents as determined by the instructor.

NTR 473 Medical Nutrition Therapy 4

Clinical aspects of nutrition. Development and use of therapeutic diets to combat nutritional diseases and physiological disorders.

Prerequisites: Grade of C or better in NTR 313, NTR 413, NTR 431, NTR 450, NTR 460, and BIO 277 or KIN 292.

NTR 473L Medical Nutrition Therapy Lab 0**NTR 474 Medical Nutrition Therapy 1 4**

Part 1 of 2-semester course sequence. Course focuses on applying Nutrition Care Process to determine weight-inclusive medical nutrition therapy for patients/clients experiencing physiological stress or disease using evidence-based guidelines.

Prerequisites: Grade of C or better in NTR 413, NTR 431. Grade of C- or better in BIO 277 or KIN 292;

Corequisites: NTR 460.

NTR 475 Medical Nutrition Therapy 2 4

Part 2 of a 2-semester course sequence. Course focuses on applying Nutrition Care Process and evidence-based guidelines to treat clients experiencing physiological stress or disease using weight-inclusive medical nutrition therapy.

Prerequisites: Grade of C or better in NTR 413, NTR 431, NTR 474. Grade of C- or better in BIO 277 or KIN 292.

NTR 476 Sports Nutrition 3

Application of sports nutrition recommendations among athletes.

Principles of diet planning and goal setting for optimizing training and athletic performance. Common and current nutrition-related topics in sports nutrition.

Prerequisites: Grade of C or better in NTR 413 or equivalent required and instructor permission. C- or better in BIO 277, CHE 103, CHE 104, CHE 110 or CHE 111, CHE 112, CHE 114, CHE 115.

NTR 482 Professionalism in Dietetics 1

Capstone course in dietetics covering professional practice guidelines, public policy, healthcare systems and/or policies, reimbursement, and a review of the five subject areas of the Academy of Nutrition and Dietetics and registration exam.

Prerequisites: Minimum grade of C in NTR 282, NTR 313, NTR 413, and NTR 431. Minimum grade of C- in BIO 277 or KIN 292;

Corequisites: NTR 460.

NTR 493 Honors Work 3-6

Honors Work.

Prerequisites: Permission of instructor. 3.30 GPA in the major, 12 s.h. in the major;

Notes: May be repeated for credit if the topic of study changes.

NTR 495 Field Experience in Nutrition 2-6

Supervised field experience in nutrition-related work sites.

Prerequisites: Grade of C or better in NTR 413.

Notes: May be repeated twice for up to 6 s.h. of credit.

NTR 500 Supervised Professional Experience 1-4

Supervised professional experience in selected commercial or industrial organizations, public or private agencies in accordance with the major course of study of the student.

NTR 531 Nutrition and Human Metabolism 4

Structure, function, and metabolism of nutrients and related compounds; integration of nutrient metabolism at the cellular level with total body function; practical application of basic principles of nutrient metabolism.

NTR 553 Child and Adolescent Nutrition 3

Nutritional needs of children and adolescents; methods of evaluating nutritional status of these groups; effects of nutrition on development.

NTR 560 Advanced Nutrition 4

Biochemical and physiological aspects of nutrient metabolism and utilization. Nutrient metabolism, flux, and requirements during the lifecycle and during fed/fasted states will be discussed, with emphasis on mechanisms that regulate these processes.

Prerequisites: Grade of C or better in NTR 531 or equivalent as determined by the instructor.

NTR 573 Medical Nutrition Therapy 4

Clinical aspects of nutrition. Development and use of therapeutic diets to combat nutritional diseases and physiological disorders.

Prerequisites: Grade of C or better in NTR 531, NTR 550, and NTR 560.

Corequisites: NTR 573L.

NTR 573L Medical Nutrition Therapy Lab 0**NTR 601 Directed Study in Nutrition 1-6**

Prerequisite: Permission of graduate faculty member;

Notes: May be repeated for credit. Grade: Satisfactory/Unsatisfactory (S/U).

NTR 602 Supervised Preparation for Professional and Community Engagement 3

Preparation for clinical supervised practice experiences in dietetics; helping relationships skills, human resource management, marketing strategies for revenue generating services in dietetics, appropriate professional conduct in patient care.

Prerequisites: Admission into the DI program or NTR 573 and NTR 560.

NTR 606A Practicum in Clinical Dietetics 3-6

For Dietetic Internship students only. Practical experience in the professional areas of dietetics: management, clinical, and community.

Prerequisites: Grade of B or better in NTR 693.

Notes: Required for Dietetic Internship students. Combination of credit not to exceed 9 credit hours.

NTR 606B Practicum in Clinical Dietetics 3-6

For Dietetic Internship students only. Practical experience in the professional areas of dietetics: management, clinical, and community.

Prerequisites: Grade of B or better in NTR 693.

Notes: Required for Dietetic Internship students. Combination of credit not to exceed 9 credit hours.

NTR 606C Practicum in Clinical Dietetics 3-6

For Dietetic Internship students only. Practical experience in the professional areas of dietetics: management, clinical, and community.

Prerequisites: Grade of B or better in NTR 693.

Notes: Required for Dietetic Internship students. Combination of credit not to exceed 9 credit hours.

NTR 607 Nutrition Education 3

Philosophy, principles, methods, and materials involved in nutrition education. Emphasis on development of nutrition education curriculum and programs in school and community.

Prerequisites: NTR 550 or equivalent or permission of instructor.

NTR 609A Seminar in Nutrition 1

Review, analysis and presentation of recent research findings and issues in food and nutrition.

Notes: May be repeated for credit when topic varies. Enrollment for two credits requires presentation of seminar; Grade: NTR 609A, 1 hour credit, graded Satisfactory/Unsatisfactory (S/U); NTR 609B, 2 hours credit, graded by letter grade.

NTR 609B Seminar in Nutrition 2

Review, analysis and presentation of recent research findings and issues in food and nutrition.

Notes: May be repeated for credit when topic varies. Enrollment for two credits requires presentation of seminar; Grade: NTR 609A, 1 hour credit, graded Satisfactory/Unsatisfactory (S/U); NTR 609B, 2 hours credit, graded by letter grade.

NTR 623 Current Trends in Nutrition 3

Emphasis on current trends in nutrition research/education from a molecular, cellular and/or human perspective.

Prerequisites: Senior or graduate level course in nutrition or permission of instructor.

Notes: May be repeated for credit when topic varies.

NTR 624 Supervised Preparation for Culinary Medicine 3

Practical experience to combine a comprehensive knowledge of nutrition and dietetics, culinary medicine, and the art of food and cooking to prepare satisfying and delicious meals that are consistent with real-world budgets, time constraints and better overall physical and mental health.

Corequisites: Must be enrolled in the Dietetic Internship, Post-Baccalaureate Certificate program.

NTR 625 Gene Expression and Protein Metabolism 2

Integration of cell biology and protein metabolism in relation to gene expression and regulation of enzyme activity in mammalian cells. Critical analysis of recent literature.

Prerequisites: Previous course in general nutrition, biochemistry and mammalian physiology and unconditional admission to the graduate program in Nutrition or other life sciences, or permission of instructor.

NTR 626 Energy, Carbohydrate, Lipid Metabolism 2

Analysis of energy intake and metabolism; carbohydrate and lipid absorption, transport, and tissue-specific utilization. Clinical applications. Critical analysis of recent literature.

Prerequisites: NTR 625, previous course in general nutrition, biochemistry and mammalian physiology, and unconditional admission to the graduate program in Nutrition or other life sciences. or permission of instructor.

NTR 627 Antioxidants and Bioactive Food Components 2

Metabolism and function of selected bioactive food components, such as flavonoids, stanols, and sterols, anthocyanins, carotenoids, polyphenolics, indole-3-carbinol. Clinical applications. Critical analysis of recent literature.

Prerequisites: NTR 625, previous course in general nutrition, biochemistry, and mammalian physiology, and unconditional admission to the graduate program in Nutrition or other life sciences. or permission of instructor.

NTR 628 Vitamins and Minerals 2

Metabolism functions of selected vitamins. Regulation of selected trace metals emphasizing nutrient-gene interactions. Clinical applications. Critical analysis of recent literature.

Prerequisites: NTR 625, previous course in general nutrition, biochemistry and mammalian physiology, and unconditional admission to the graduate program in Nutrition or other life sciences. or permission of instructor.

NTR 645 Teaching Practicum in Nutrition 3

Provides a supervised, structured learning experience in teaching for graduate students in the Department of Nutrition. Professors provide guidance for graduate students during the experience.

Prerequisites: Admission to the graduate program in nutrition or permission of instructor.

NTR 653 Problems in Food and Nutrition 2-4

Individual student problems related to food and nutrition.

Prerequisites: Permission of instructor.

Notes: May be repeated for credit. Grade: Satisfactory/Unsatisfactory (S/U).

NTR 670 Research Skill Development 2-6

Notes: May be repeated for credit; Grade: Satisfactory/Unsatisfactory (S/U).

NTR 673 Nutrition Research Methodology 3

Diverse research techniques used in cellular, small animal, and human experimental studies in nutritional sciences. Orientation to research methodologies, grant proposal writing, ethical use of human (IRB) and animal (IACUC) models, and policy in nutrition.

Prerequisites: NTR 531 or equivalent as determined by the department.

NTR 674 Medical Nutrition Therapy 1 4

Part 1 of 2-semester course sequence. Course focuses on applying Nutrition Care Process to determine weight-inclusive medical nutrition therapy for patients/clients experiencing physiological stress or disease using evidence-based guidelines.

NTR 675 Medical Nutrition Therapy 2 4

Part 2 of a 2-semester course sequence. Course focuses on applying Nutrition Care Process and evidence-based guidelines to treat clients experiencing physiological stress or disease using weight-inclusive medical nutrition therapy.

Prerequisites: NTR 674.

NTR 676 Nutrition and Physical Performance 3

Effects of nutrition on physical performance, alterations in nutrient metabolism from increased activity, interaction of diet and exercise on aging and disease processes, training and competition diets examined.

Prerequisites: Course work in biochemistry and physiology required, 531, 560, or equivalent courses, BIO 277.

NTR 693 Supervised Preparation for Practicum in Clinical Dietetics 3

Development of nutritional therapies for certain disease conditions.

Evaluation of the physiological and biochemical bases for such therapies.

Prerequisites: Admission to DI program or NTR 573 and permission of instructor.

NTR 699 Thesis 1-6

Notes: Required of all candidates for the Master of Science degree; Credit may be divided over two or more semesters; Grade: Satisfactory/Unsatisfactory (S/U).

NTR 701 Directed Study in Nutrition 1-6

Prerequisite: Permission of graduate faculty member;

Notes: May be repeated for credit, grading method is Satisfactory/Unsatisfactory (S/U).

NTR 707 Nutrition Education 3

Philosophy, principles, methods, and materials involved in nutrition education. Emphasis on development of nutrition education curriculum and programs in school and community.

Prerequisites: NTR 550 or equivalent or permission of instructor.

NTR 709A Seminar in Nutrition 1

Review, analysis and presentation of recent research findings and issues in food and nutrition.

Notes: May be repeated for credit when topic varies. Enrollment for two credits requires presentation of seminar. NTR 709A, 1 hour credit, graded Satisfactory/Unsatisfactory (S/U). NTR 709B, 2 hours credit, graded by letter grade.

NTR 709B Seminar in Nutrition 2

Review, analysis and presentation of recent research findings and issues in food and nutrition.

Notes: May be repeated for credit when topic varies. Enrollment for two credits requires presentation of seminar. NTR 709A, 1 hour credit, graded Satisfactory/Unsatisfactory (S/U). NTR 709B, 2 hours credit, graded by letter grade.

NTR 723 Current Trends in Nutrition 3

Emphasis on current trends in nutrition research/education from a molecular, cellular and/or human perspective.

Prerequisites: Senior or graduate level course in nutrition or permission of instructor.

Notes: May be repeated for credit when topic varies.

NTR 724 Supervised Preparation for Culinary Medicine 3

Practical experience to combine a comprehensive knowledge of nutrition and dietetics, culinary medicine, and the art of food and cooking to prepare satisfying and delicious meals that are consistent with real-world budgets, time constraints and better overall physical and mental health.

Corequisites: Must be enrolled in the Dietetic Internship, Post-Baccalaureate Certificate program.

NTR 725 Gene Expression and Protein Metabolism 2

Integration of cell biology and protein metabolism in relation to gene expression and regulation of enzyme activity in mammalian cells. Critical analysis of recent literature.

Prerequisites: Previous course in general nutrition, biochemistry and mammalian physiology, and unconditional admission to the graduate program in Nutrition or other life sciences or permission of instructor.

NTR 726 Energy, Carbohydrate, Lipid Metabolism 2

Analysis of energy intake and metabolism; carbohydrate and lipid absorption, transport, and tissue-specific utilization. Clinical applications. Critical analysis of recent literature.

Prerequisites: NTR 725, previous course in general nutrition, biochemistry and mammalian physiology, and unconditional admission to the graduate program in Nutrition or other life sciences or permission of instructor.

NTR 727 Antioxidants and Bioactive Food Components 2

Metabolism and function of selected bioactive food components, such as flavonoids, stanols, and sterols, anthocyanins, carotenoids, polyphenolics, indole-3-carbinol. Clinical applications. Critical analysis of recent literature.

Prerequisites: NTR 725, previous course in general nutrition, biochemistry, and mammalian physiology, and unconditional admission to the graduate program in Nutrition or other life sciences or permission of instructor.

NTR 728 Vitamins and Minerals 2

Metabolism functions of selected vitamins. Regulation of selected trace metals emphasizing nutrient-gene interactions. Clinical applications. Critical analysis of recent literature.

Prerequisites: NTR 725, previous course in general nutrition, biochemistry and mammalian physiology, and unconditional admission to the graduate program in Nutrition or other life sciences or permission of instructor.

NTR 745 Teaching Practicum in Nutrition 3

Provides a supervised, structured learning experience in teaching for graduate students in the Department of Nutrition. Professors provide guidance for graduate students during the experience.

Prerequisites: Admission to the graduate program in Nutrition or permission of instructor.

NTR 753 Problems in Food and Nutrition 2-4

Individual student problems related to food and nutrition.

Prerequisites: Permission of instructor.

Notes: May be repeated for credit, grading method is Satisfactory/Unsatisfactory (S/U).

NTR 767 Nutrition and Physical Performance 3

Effects of nutrition on physical performance, alterations in nutrient metabolism from increased activity, interaction of diet and exercise on aging and disease processes, training and competition diets examined.

Prerequisites: Course work in biochemistry and physiology required, 531, 560, or equivalent courses, BIO 277.

NTR 770 Research Skill Development 2-6

Notes: May be repeated for credit, grading method is Satisfactory/Unsatisfactory (S/U).

NTR 773 Nutrition Research Methodology 3

Diverse research techniques used in cellular, small animal, and human experimental studies in nutritional sciences. Orientation to research methodologies, grant proposal writing, ethical use of human (IRB) and animal (IACUC) models, and policy in nutrition.

Prerequisites: NTR 531 or equivalent as determined by the department.

NTR 774 Medical Nutrition Therapy 1 4

Part 1 of 2-semester course sequence. Course focuses on applying Nutrition Care Process to determine weight-inclusive medical nutrition therapy for patients/clients experiencing physiological stress or disease using evidence-based guidelines.

NTR 775 Medical Nutrition Therapy 2 4

Part 2 of a 2-semester course sequence. Course focuses on applying Nutrition Care Process and evidence-based guidelines to treat clients experiencing physiological stress or disease using weight-inclusive medical nutrition therapy.

Prerequisites: NTR 774.

NTR 776 Nutrition and Physical Performance 3

Effects of nutrition on physical performance, alterations in nutrient metabolism from increased activity, interaction of diet and exercise on aging and disease processes, training and competition diets examined.

Prerequisites: Course work in biochemistry and physiology required, 531, 560, or equivalent courses, BIO 277.

NTR 790 Doctoral Research 1-6

Individual work on problems related to student's primary area(s) of specialization. Empirical research or critical reviews and integrations of literature.

Prerequisites: Approval of graduate faculty member.

Notes: May be repeated for credit. Grade: Satisfactory/Unsatisfactory (S/U).

NTR 799 Dissertation Problem 1-12

Prerequisite: Completion of oral and written comprehensive examinations;

Notes: Required of all candidates for the Doctor of Philosophy degree. May be repeated for credit; Grade: Satisfactory/Unsatisfactory (S/U).

NTR 801 Thesis Extension 1-3

Thesis Extension.

NTR 802 Dissertation Extension 1-3

Dissertation Extension.

NTR 803 Research Extension 1-3