

NUTC 270: Nutrition, Health, and Disease II: Adulthood Summer 2023

Welcome to NUTC 270!

Welcome to Nutrition, Health, and Disease II: Adulthood! This semester we will be examining the causative, protective, and therapeutic roles of nutrition in specific adult nutrition-related conditions. We (Dr. Prelack and Prof. Kane, i.e. Kathy and Kelly) have been teaching this course for 7 years together and truly enjoy sharing our expertise with you. We will do our best to bring our clinical knowledge and skills into the classroom so that you adapt into your own clinical experience.

In order to maximize student experiences in the classroom, we will use material that is respectful of diversity and inclusion. Moreover, we understand that an essential part of this course is the diversity of student experiences and perspectives, which will maximize our learning as we progress through the semester.

As a student, you may experience a range of challenges that can interfere with learning. These mental health concerns or stressful events may diminish your academic performance. There are confidential [resources available at Tufts](#) that can assist you in managing these challenges. If you feel like your performance in class is being impacted by your experiences outside of class, please do not hesitate to come and talk with us. We want to be a resource for you.

Important Information:

Class Meetings: Online, Asynchronous

Instructor(s): Kelly Kane, MS, RD, CNSC
kelly.kane@tufts.edu
Phone 617.636.8309

Kathy Prelack, PhD, RD
Kathrina.prelack@simmons.edu
Phone 617.371.4756

Semester Hour Units: 3 SHUs

Prerequisites: NUTC 202: Principles of Nutrition Science, or an equivalent course in general nutrition

Course Communications:

We appreciate feedback and any questions from students. You are welcome to email us (please cc both instructors in all communications). We would also be happy to set up a time to connect either via zoom.

Office Hours:

Both instructors are available by appointment. Please feel free to connect to ask any questions about class materials or assignments and applicability to clinical practice.

Course Summary:

The relationship of nutrition within the development and management of various chronic conditions including hypertension, dyslipidemia, cardiovascular disease, diabetes, and metabolic syndrome is examined. An in-depth focus on undernutrition as malnutrition and overnutrition as obesity will be provided. Medical nutrition therapy

associated with the management of certain gastrointestinal disorders including celiac disease, inflammatory bowel disease, and irritable bowel syndrome is introduced. Energy and nutrient requirements in older adulthood, as well as common nutrition related concerns such as sarcopenia, osteoporosis, osteoarthritis, oral health issues, and age-related eye diseases during this life stage are addressed.

Course Goals/Learning Objectives:

At the completion of the course, students should be able to:

1. Discuss the key elements of nutritional assessment and diet therapy, describe their alterations during various disease states and relate this information to support nutrition intervention strategies in individuals during altered pathological states.
2. Interpret information from medical, social, and nutritional histories, combined with biochemical and anthropometrical indices during different pathophysiological states to assess nutritional status, develop nutrition care plans, and problem solve.
3. Accurately define, both in writing and orally, how pathophysiology of a selected disease state impacts nutritional status and what nutrition interventions are indicated.
4. Discuss controversy in the scientific literature related to medical nutrition therapy and implications for clinical practice.
5. Develop skills for discussing nutrition related problems with patients and clients.

Texts or Materials:

Kane K and Prelack K, eds. Advanced Medical Nutrition Therapy, Burlington, MA. Jones and Bartlett Learning; 2019. ISBN-13 9781284042634, ISBN-10 1284042634. Additional up-to-date readings will be available through [Canvas](#).

How to be Successful in this Course:

Students will be expected to read the assigned materials and listen to the recorded lectures as applicable each week. Familiarity with the materials will be necessary in order to engage in online discussions. We encourage sharing your clinical experiences via these discussions which make for a rich learning environment. Supplemental readings, although not required, may also be posted and are highly recommended.

Assignments and Grading:

Description of assignments, tests, and other required activities:

Assignments for this course include readings, online lectures, "What Would You Do?" discussions, quizzes, midterm exam, a clinical controversy discussion, and an essay review paper. For the most up to date information regarding assigned readings, instructions, and due dates please login to your Canvas course site and click on the tab labeled "Modules."

Lectures and Readings

Lectures are provided by Dr. Prelack, Professor Kane, as well as various clinical experts on a variety of topics. Students are required to watch each lecture. Readings are designed to enhance learning by providing background and further in-depth information and will come from the textbook and/or scientific journals. Supplemental readings, although not required, may also be posted and are highly recommended.

Quizzes

Multiple choice online Quizzes are provided to enhance your learning experience. The quiz questions will come from that week's lecture and assigned readings. You will take the quiz on the Canvas website. The quizzes will be available only until 11:59 EST Sunday of the assigned week. **There will be absolutely no make-up quizzes.** Quizzes

will be timed with a time limit of 45 minutes per quiz. Quizzes can be taken a maximum of two times and the highest of the two scores will be recorded.

Midterm Exam

The first half of the course will focus on the basic core lectures areas (Dietary Guidelines, Nutrition Assessment, Nutrition in Aging, and Malnutrition). The untimed, short answer exam will assess this material.

“What Would You Do?” Online Discussions

There will be three “What Would You Do?” (WWYD) web-based discussions on common nutritional problems and concerns that are encountered at various stages of pregnancy through adolescence. The purpose of this exercise is to help you identify the common problems at each stage, understand the scientifically based evidence surrounding them, and assimilate this information in a way that will allow you to provide recommendations to patients and clients. Addressing the need for weight management, providing education for adolescences on healthy food choices, exercising cultural competency surrounding food related behaviors, dispelling myths, and answering basic questions on nutrition are included as WWYD discussion topics. Supplementary materials will be used to introduce each discussion. Ideal discussions are ones in which all members provide their views incorporating science as well as practical applications, and possibly personal and/or professional experience, on the topics. All initial posts should be a minimum of 100 words in length and are due on Thursday of the assigned week at 11:59 PM eastern time. All reply posts, which should also be a minimum of 100 words in length, are due by Sunday of the assigned week by 11:59 PM eastern time. Additional posts beyond the initial and follow-up posts are encouraged to generate vigorous discussion. These additional posts do not have a required word count.

Clinical Controversy Discussion

There will be one Clinical Controversy online discussion which serves to highlight a current controversy in practice. You will be provided with a position and asked to defend it as a practice standard. *This is a more formal online discussion than the WWYD online discussions.* The Clinical Controversy Discussion seeks to allow for a rich discussion of the topic and requires the use of evidence to make an argument for or against a certain practice. The initial post should be between 250-400 words in length. After all of the initial posts are completed by your fellow students, choose one to reply to, and indicate to the group, in 200 – 250 words, whether it is similar or different from your opinion and what we can learn from these differences or similarities of opinion. In order to prevent overlap, please indicate on the discussion board when you have chosen a posting to reply to. Do this by creating a reply to that initial posting and in the subject line put, "Claimed by [your name]." No other student should choose an initial posting that has already been claimed.

Essay Review Paper (approximately 6-8 pages, double-spaced)

The paper topic will be chosen by the student and approved by the instructors. Paper topics are due mid semester and will be discussed in class. The topic should not be one that is presented as part of the scheduled lectures, although special instances of a general topic discussed during lecture is acceptable. The paper should reflect the current state of knowledge in the particular area as supported by research and expert opinion in the field. The content's focus should be on the nutritional implications and dietary management of the specific disease state or condition. An overview of physiological mechanisms of the disease and aspects of treatment should be included. The paper should include an introduction, review of literature, discussion of important findings, and conclusion. The conclusion should include directions of the future research and controversies if applicable.

The following guidelines are used in evaluating course performance:

1. Assignments will be evaluated on the basis of completeness, originality, scientific soundness, and relevance to the assigned topic.
2. Written work will be evaluated on the quality of thought, completeness, and adherence to guidelines, scientific integrity, and ability to incorporate and communicate ideas and information effectively.

3. Adherence to instructions and guidelines of the assignments.
4. Participation in all class activities and discussions. Missed work will affect your grade unless prior arrangements were requested and approved in writing by the instructors for make-up work.
5. Online discussions will be evaluated according to the discussion matrix below.

Online WWYD Discussion Assignment Grading Criteria:

Quality of Posting/Reply	Points	Details
No Posting	0	Not Acceptable
Postings are not relevant to discussion posed	5	
Posting reflect reading and are relevant to questions posed. Only 1 posting noted and/or postings did not meet word count requirements.	10	Met minimum standards
Postings show a strong grasp of material, original thought with solid facts to back-up opinions and statements. Directly contributes to the discussion and communicates well with other students. Shows an ability to apply nutrition related topics to real life situations. At least 2-3 quality postings meeting word count requirements.	20	Exceeded minimum standards

Final Grading:

Assignments	Grading Weight
Online Quizzes (5)	25%
WWYD Discussions	15%
Clinical Controversy	10%
Essay Review Paper	25%
TOTAL	100%

Grading Range:

Grade	Score	Grade	Score	Grade	Score
A+	98.50-100	B-	80-82.49	D+	67.50-69.99
A	92.50-98.49	C+	77.50-79.99	D	62.50-67.49
A-	90-92.49	C	72.50-77.49	D-	60-62.49
B+	87.50-89.99	C-	70-72.49	F	0-59.99
B	82.50-87.49				

A passing course grade at the Friedman School is a B- or better. At the Friedman School an A+ grade and an A grade are both calculated as 4.00 grade points in a student's grade point average.

Instructions for Submission of Assignments and Exams:

Class Policies, Expectations, and Evaluation

Students will have only one opportunity to complete each assignment, and all assignments are due on the date/time specified. Students will have only one opportunity to complete the exam. Each exam must be completed and successfully submitted within the specified time period. Students who are unable to complete an assignment on time for any reason should notify the instructors by email prior **to the deadline**, with a brief explanation for why the extension is needed.

There are NO opportunities for extra credit work.

Students are expected to complete all assignments on their own, i.e. without assistance from other students, faculty, etc. unless otherwise noted. All outside documents used in the preparation of students' work must be properly referenced. (References to the textbook are not required).

The following guidelines are used in evaluating course performance:

1. Assignments will be evaluated on the basis of completeness, originality, scientific soundness, and relevance to the assigned topic.
2. Written work will be evaluated on the quality of thought, completeness, and adherence to guidelines, scientific integrity, and ability to incorporate and communicate ideas and information effectively.
3. Adherence to instructions and guidelines of the assignments.
4. Participation in all class activities and discussions. Missed work will affect your grade unless prior arrangements were requested and approved in writing by the instructors for make-up work.

Academic Conduct:

You are responsible for upholding the highest standards of academic integrity, as specified in the Friedman School's Policies and Procedures Handbook located at this web page: <https://nutrition.tufts.edu/about/policies-and-procedures>, as well as Tufts University's policies (<https://students.tufts.edu/community-standards/support-resources/academic-integrity-resources>). This includes understanding and avoiding plagiarism, which is defined as the unacknowledged use of someone else's published or unpublished work. It is the responsibility of each student to understand and comply with academic integrity standards, as violations will be sanctioned by penalties ranging from failure on an assignment and the course to dismissal from the school.

Accommodation of Disabilities:

We will do our best to ensure each of you has the resources you need to succeed. Tufts University is committed to providing equal access and support to all students through the provision of reasonable accommodations so that each student may access their curricula and achieve their personal and academic potential. If you have a disability that requires reasonable accommodations, please contact the Friedman School Assistant Dean of Student Affairs at 617-636-6719 to make arrangements for determination of appropriate accommodations. Please be aware that accommodations cannot be enacted retroactively, making timeliness a critical aspect for their provision.

Remote Participation:

- This course will be delivered online and asynchronously.

Technical Support:

Online course support is provided by Friedman support staff and/or IT Support. Please do not contact faculty or TA's for technical support.

- **Telephone:** (617) 627-3376
- **Email:** canvas@tufts.edu
- **Hours:** 24 hours a day, seven days a week.

When reporting a problem, please include:

- The name and number of your online course (NUTC 270)
- Your operating system and browser
- A detailed description of the problem

This information will expedite the troubleshooting process. If you are sending a support request via email, please use your Tufts email address. Many problems with Canvas are a result of using an unsupported browser. The most up to date versions of Firefox, Chrome, Edge, and Safari are acceptable.

Course Overview:

You will find the course's Canvas site is organized by weekly modules, with all readings posted the week they are assigned, and assignments posted when you are ready to begin them, and clear instructions for each assignment submission.

DATE	Week	COURSE TOPIC	LECTURER	CHAPTER/ READINGS	ACTIVITIES/ASSIGNMENTS
May 24 – May 28	1	Course Introduction	Kelly Kane MS, RD Kathy Prelack, PhD, RD	-	Introductions
May 29 – June 4	2	Nutrition in Wellness – Dietary Guidelines	Kathy Prelack, PhD, RD	Dietary Guidance reading	Quiz 1 due 6/4 by 11:59 pm EST (LO 1-3)
June 5 - June 11	3	Nutrition Assessment of the Adult	Kelly Kane MS, RD	1	Quiz 2 due 6/11 by 11:59 pm EST (LO 1-3)
June 12 - June 18	4	Nutrition During Adulthood – the Older Years Nutrition in Oral Health	Guest: Lauren Fialkoff, MS, RD Guest: Carole Palmer, EdD, RD	26 11	WWYD 1 Sugar: How bad is it? (LO 1,2,3,5) No quiz this week
June 19 – June 25	5	Malnutrition/Nutrition in At Risk Populations – Homeless, Alcoholism, Food Insecurity, Failure to Thrive	Guest: Grace Phelan, MS, RD	Malnutrition reading	Quiz 3 due 6/25 by 11:59 pm EST (LO 1-3)
June 26 - July 2	6	Nutrition in Weight Management – Motivational Interviewing	Guest: Melissa Page, PhD, RD	8	Quiz 4 due 7/2 by 11:59 pm EST (LO 1-3)
July 3 - July 9	7	Development of Metabolic Syndrome	Kathy Prelack, PhD, RD	Metabolic Syndrome reading	Midterm Exam due 7/9 by 11:59 EST (LO 1-3)
July 10 – July 16	8	Nutrition in Cardiovascular Disease	Kelly Kane, MS, RD	10	WWYD 2 Optimal diet for managing CVD: fats vs CHOs? What should I be eating? (LO 1,2,3,5)

July 17 - July 23	9	Nutrition in Chronic Disease – Kidney Disease and Liver Failure	Guest: Haewook Han, PhD, RD Kelly Kane MS, RD	14 and 15	Paper Topics due 7/23 by 11:59 pm EST (LO 1-3)
July 24 - July 30	10	Nutrition in Type 2 Diabetes Mellitus	Guest: Aruna Saraswat, MD	9	Quiz 5 due 7/30 by 11:59 pm EST (LO 1-3)
July 31 - Aug 6	11	Nutrition in Gastrointestinal Disease	Guest: Alicia Romano, MS, RD	12 and 13	WWYD 3 Non-Conventional Diet Therapies (LO 1,2,3,5)
Aug 7 - Aug 13	12	Nutrition in Cancer	Guest: Alicia Romano, MS, RD	19	Essay Review Paper Outline due 4/2 by 11:59 pm EST (LO 1-3)
Aug 14 - Aug 20	13	Clinical Controversy	Kelly Kane, MS, RD Kathy Prelack, PhD, RD	Journal Articles	Clinical Controversy Online Discussion (LO 4,5)
Aug 21 - Aug 27 Finals week	14				Essay Review Paper Final Draft due 8/27 by 11:59 EST (LO 1-3)

This schedule is subject to modification at the instructor's discretion.

Topics, Assignments, and Learning Objectives for Each Class Session:

Week 1

Course Topics: Course Introduction

Required Reading/Assignments:

- Watch Introduction video

Assignments Due:

- Participate in Introduction discussion by Sunday 5/28/23 by 11:59 pm EST

Week 2

Course Topics: Nutrition in Wellness

Learning Objectives:

Upon completion of this class, students will be able to:

- Describe the importance of nutrition in maintenance of health and prevention of disease in adults
- Summarize the purpose of the Dietary Guidelines for Americans
- Identify primary diseases and nutritional intake associated with disease prevention
- Explain the purpose of the Dietary Reference Intakes and how each category of Dietary Reference Intakes is calculated

Required Reading/Assignments:

- Read Dietary Guidance reading
- Watch Nutrition in Wellness lecture

Assignments Due:

- Complete Quiz 1 due 6/4/23 by 11:59 pm EST

Week 3

Course Topics: Nutrition Assessment of the Adult

Learning Objectives:

Upon completion of this class, students will be able to:

- Name the components of a nutrition assessment and describe the features of each
- Identify a physical feature that can be influenced by an individual's nutritional status

Required Reading/Assignments

- Kane and Prelack: Ch 1
- Watch Nutrition Assessment in Adulthood lecture

Assignments Due:

- Complete Quiz 2 due 6/11/23 by 11:59 pm EST

Week 4

Course Topics: Nutrition in Older Adulthood; Nutrition in Oral Health

Learning Objectives:

Upon completion of this class, students will be able to:

- Identify the unique characteristics of the aging population which increase nutritional risk and summarize the nutrients of concern for aging adults
- Identify social and economic factors that may impact nutritional status in aging
- Discuss the roles of diet and nutrition in the etiology and progression of dental caries, periodontal disease, and oral infections
- Discuss the major interventions needed to prevent dental caries and periodontal disease

Required Reading/Assignments:

- Kane and Prelack: Ch 26 and 11
- Watch Nutrition in Older Adulthood and Nutrition in Oral Health lectures

Assignments Due:

- Participate in WWYD 1 online discussion
 - Initial post due Thursday by 6/15/23 by 11:59 pm EST
 - Follow up post due Sunday 6/18/23 by 11:59 pm EST

Week 5

Course Topics: Nutrition in At Risk Populations and Malnutrition

Learning Objectives:

Upon completion of this class, students will be able to:

- Identify risk factors for malnutrition in the adult population
- Identify potential nutrient deficiencies in adults
- Describe specific nutrient deficiencies with alcoholism or drug addition
- Identify the characteristics of a healthful diet and list potential resources for obtaining meals and nutrition

Required Reading/Assignments:

- Malnutrition reading
- Watch Malnutrition/Nutrition in At Risk Populations lecture

Assignments Due:

- Complete Quiz 3 due 6/25/23 by 11:59 pm

Week 6

Course Topics: Nutrition in Weight Management and Motivational Interviewing

Learning Objectives:

Upon completion of this class, students will be able to:

- Describe major contributors to energy imbalance
- Identify leading research in genetic mechanisms of energy regulation, appetite control
- Apply the basic principles of motivational interviewing

Required Reading/Assignments:

- Kane and Prelack: Ch 8
- Watch Nutrition in Weight Management and Motivational Interviewing lecture

Assignments Due:

- Complete Quiz 4 due 7/2/23 by 11:59 pm

Week 7

Course Topics: Development of Metabolic Syndrome

Learning Objectives:

Upon completion of this class, students will be able to:

- Define metabolic syndrome
- Identify individuals at risk for metabolic syndrome
- Describe specific interventions for prevention of this syndrome

Required Reading/Assignments:

- Metabolic Syndrome reading
- Watch Metabolic Syndrome lecture

Assignments Due:

- Complete Midterm Exam due 7/9/23 by 11:59 pm

Week 8

Course Topics: Nutrition in Cardiovascular Disease

Learning Objectives:

Upon completion of this class, students will be able to:

- Summarize the components of a dietary pattern that can reduce hypertension
- Explain the influence of dietary changes on cardiovascular disease management including hypertension, coronary artery disease, and cardiac failure
- Identify the recommended sodium intake for Americans

Required Reading/Assignments:

- Watch Nutrition in Cardiovascular Disease lecture

Assignments Due:

- Participate in WWYD 2 online discussion
 - Initial post due Thursday by 7/13/23 by 11:59 pm EST
 - Follow up post due Sunday 7/16/23 by 11:59 pm EST

Week 9

Course Topics: Nutrition in Chronic Kidney Disease and Liver Disease

Learning Objectives:

Upon completion of this class, students will be able to:

- Describe how nutrition assessment should be modified for patient with chronic kidney disease and liver disease
- Provide examples of possible nutrient deficiencies and excesses that could occur with chronic kidney disease and liver disease
- Describe the nutritional requirements and dietary modifications associated with the various renal and liver therapies including renal replacement therapy and management of hepatic encephalopathy
- Describe how liver disease could influence macronutrient and micronutrient metabolism
- Recognize how renal and liver disease can result in protein energy malnutrition

Required Reading/Assignments:

- Kane and Prelack: Ch 14 and 15
- Watch Nutrition in Kidney Disease and Liver Disease lectures

Assignments Due:

- Submit Paper Topic due 7/23/23 by 11:59 pm

Week 10

Course Topics: Nutrition in Type 2 Diabetes Mellitus

Learning Objectives:

Upon completion of this class, students will be able to:

- Identify the classifications of DM including features and risk factors
- Describe the primary dietary approaches to managing DM including glycemic index
- Describe treatment approaches

Required Reading/Assignments:

- Kane and Prelack: Ch 9
- Watch Nutrition in Type 2 Diabetes Mellitus lecture

Assignments Due:

- Complete Quiz 5 due 7/30/23 by 11:59 pm EST

Week 11**Course Topics:** Nutrition in Gastrointestinal (GI) Disease**Learning Objectives:**

Upon completion of this class, students will be able to:

- Understand primary points of nutrient absorption throughout the GI tract
- Describe the main dietary approaches to Crohn's Disease, Inflammatory Bowel Disease, Irritable Bowel Syndrome, Pancreatitis, Celiac diseases
- List specific nutrient deficiencies that may occur with GI disease
- Describe the role of pre- and probiotics in GI disease management

Required Reading/Assignments:

- Kane and Prelack: Ch 12 and 13
- Watch Nutrition in GI Disease lecture

Assignments Due:

- Participate in WWYD 3 online discussion
 - Initial post due Thursday 8/3/23 by 11:59 pm EST
 - Follow up post due Sunday 8/6/23 by 11:59 pm EST

Week 12**Course Topics:** Nutrition in Cancer**Learning Objectives:**

Upon completion of this class, students will be able to:

- Describe obstacles to nutrition associated with cancer and its treatment
- Provide recommendations to maintain nutrition during cancer and its treatment
- Identify alternative therapies, potential misinformation aimed at cancer patients

Required Reading/Assignments:

- Kane and Prelack: Ch 19
- Watch Nutrition in Cancer lecture

Assignments Due:

- Essay Review Paper Outline due 8/13/23 by 11:59 pm EST

Week 13**Course Topics:** Clinical Controversy Panel**Learning Objectives:**

Upon completion of this class, students will be able to:

- Critically review and interpret scientific literature related to a clinical topic
- Abstract relevant information
- Communicate findings effectively and persuasively to others

Required Reading/Assignments:

- Read assigned journal articles

Assignments Due:

- Clinical Controversy Panel Discussion
 - Initial post due Thursday 8/17/23 by 11:59 pm EST
 - Follow up post due Sunday 8/20/23 by 11:59 pm EST

Week 14/ Finals Week**Learning Objectives:**

Upon completion of this week, students will be able to:

- Complete a formal review of scientific literature related to a specific disease state or condition

- Identify and describe in writing the background and pertinent aspects of disease states and their dietary implications

Assignments Due:

- Submit Final Essay Review Paper due 8/27/23 by 11:59 pm

This schedule is subject to modification at the instructor's discretion.