Tufts UNIVERSITY | Gerald J. and Dorothy R. Friedman School of Nutrition Science and Policy

NUTR 316: Advanced Medical Nutrition Therapy
Spring 2023

Welcome to Nutr 316!

Welcome to Advanced Medical Nutrition Therapy! This semester we will be exploring a variety of common pathophysiological conditions and integrating this knowledge with the intervention of clinical nutrition therapies. We (Dr. Prelack and Prof. Kane, i.e., Kathy and Kelly) have been teaching this course for 19 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 will be prepared when you embark on 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: Wednesdays 1:30 pm – 4:30 pm; Location: Room Jaharis 105

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: Graduate standing or instructor consent

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 in person or via zoom.

Office Hours:

Prof. Kane will be available before class (1 pm on Wednesdays). Both instructors are available by appointment. Please feel free to connect to ask any questions about class material, assignments, or to discuss career paths.

Course Summary:

This course aims to expand student's knowledge of nutritional biochemistry and physiology as related to selected pathophysiological conditions and various indices of nutritional status and integrate this knowledge with the

intervention of clinical nutrition therapies. Conditions with particular relevance to clinical nutrition are emphasized. Students will begin by learning about the basic or core elements of medical nutritional therapy. These include nutritional assessment, which incorporates the use of anthropometric, biochemical, and clinical data to determine nutritional status. Particular emphasis is placed on understanding energy expenditure and body composition and its components, and how these may change during physiological stress or illness. Students then learn about enteral and parenteral nutrition and fundamental aspects of nutrition support. These core elements are then applied in the study of various disease states and clinical nutrition therapy. Students also have the opportunity to explore diet and disease in an approved area of their interest through written and oral presentation.

Course Goals:

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.

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 background materials prior to coming to class and/or listen to the pre-recorded lectures as applicable each week. Familiarity with the recorded lectures will be necessary in order to understand the in-class discussions and activities. Supplemental readings, although not required, may also be posted and are highly recommended. Class participation is strongly encouraged and facilitates further discussion of the material which enhances learning.

Assignments and Grading:

Description of assignments, tests, and other required activities:

Assignments for this course include readings, in person and online lectures, in class discussions, midterm take home exam, quizzes, case studies, a clinical controversy discussion, an essay review paper, and paper presentation. 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."

Quizzes

Online quizzes are provided to enhance your learning experience. The quiz questions will come from the previous week's lecture and material. You will take the quiz on the Canvas website. The quizzes will be available only until the following Tuesday at 11:59 pm. There will be absolutely no make-up quizzes. Quizzes will be timed with a time limit of 30 minutes per quiz. Quizzes can be taken a maximum of two times and the highest of the two scores will be recorded.

Take Home Midterm Exam
The first half of the course will focus on the core subject areas of nutrition assessment and nutrition therapy during pathophysiology. The short answer, take home exam will assess this material.

Clinical Controversy Discussion
There will be one Clinical Controversy discussion which serves to highlight a current controversy in practice. You will be asked to take a specific position on a clinical topic. You will be provided with 1 peer reviewed journal article that supports your position, while your classmates will provide the alternate view. You will be asked to represent your position and defend it as a practice standard. 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.

Case Studies
There will be 5 case studies during the semester. Topics in specific pathological states and methods of nutrition therapy during these disease states that are presented in the lectures both by the instructors and guest lecturers will be addressed and students will answer questions based on the case studies. Case studies are due on the following Wednesday by 11:59 pm.

Essay Review Paper (approximately 10-15 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.

Essay Review Paper Presentation
A presentation of your paper will take place during the last 2 classes. Each student will present their topic orally to the class. The presentation should be no longer than 10 minutes in length.

Assignments	**Grading Weight**
Quizzes/Worksheet	20%
Take Home Midterm Exam	20%
Case Studies	20%
Clinical Controversy	10%
Paper	20%
Paper Presentation	10%
TOTAL	**100%**

Grading Range:

Grade	Score	Grade	Score	Grade	Score
A+	100	B-	80-83.99	D+	67-69.99
A	94-99.99	C+	77-79.99	D	64-66.99
A-	90-93.99	C	74-76.99	D-	60-63.99
B+	87-89.99	C-	70-73.99	F	0-59.99
B	84-86.99				

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 compete 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 (preferred) or phone call **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.

On-Campus and Remote Participation:

- This course will be delivered in the classroom. Only students who have received approval from the Friedman School's Assistant Dean for Student Affairs will be permitted to participate remotely by Zoom on a regular basis.
- If you are ill, please do **NOT** come to campus. Contact the instructors to let them know you would like to participate by Zoom.
- If you will need to participate remotely for a particular class session, please contact the instructor to receive approval in advance.
- In the event of inclement weather leading to campus closure the instructor may choose to conduct the class remotely by Zoom.
- Some class sessions may be recorded. All students in the course will have access to these recordings. Massachusetts law states that students have the right to not have their voices recorded in the classroom; if this is your wish you may refrain from participating verbally in class when the session is being recorded.

Tufts Zoom:

The Friedman School's on-campus courses may be offered by Tufts Zoom (https://access.tufts.edu/zoom) on days when the Boston campus is closed due to pandemic, weather, or a temporary cancellation issue. Students should expect to be notified by email at least 24 hours prior to class in the event that class is cancelled and will be provided with the Zoom link for students to attend any remote class sessions during the normally scheduled class period. The Zoom meeting video and audio will be recorded and posted on the course's Canvas site (https://login.canvas.tufts.edu/) when completed. If an on-campus Examination, Presentation, etc. was scheduled on a day when the Boston campus is closed due to weather or a temporary cancellation issue and cannot be conducted by Zoom, the exam/presentation will be rescheduled for an alternate on-campus class session date.

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.

WEEK/DATE/TIME	COURSE TOPIC	LECTURER	ACTIVITIES/ASSIGNMENTS
Week 1 1/18/23 1:30-4:30	Introduction Nutrition Focused Physical Examination (live) Nutrition Assessment (recorded) Biochemical Assessment (recorded)	**Kelly Kane MS, RD** Kathy Prelack, PhD, RD	Listen to recorded lectures Nutrition and Biochemical Assessment Quiz due 1/24 by 11:59 pm
Week 2 1/25/23 1:30-3:00	Nutrition in Pediatrics (recorded) Pediatric Nutrition Assessment and Failure to Thrive (live)	Kathy Prelack, PhD, RD **Annie Paquette, MS, RD, CSP** Kelly Kane MS, RD	Pediatric Nutrition Quiz due 1/31 by 11:59 pm
Week 3 2/1/23 No Synchronous class this week MNSP residency week	Nutrition in Developmental Disabilities (recorded) Nutrition Focused Physical Examination (videos)	**Kathy Prelack, PhD, RD** Kelly Kane MS, RD	NFPE Worksheet due 2/7 by 11:59 pm
Week 4 2/8/23 1:30-4:30	Energy Expenditure, Body Composition and Metabolic Support in Critical Illness (recorded) Enteral Nutrition Support (live) Critical Care Guidelines and EN practice (live)	**Kathy Prelack, PhD, RD** Kelly Kane MS, RD	Energy Expenditure, Body Composition, and Metabolic Support in Critical Illness Quiz due 2/14 by 11:59 pm
Week 5 2/15/23 1:30-3:00	Parenteral Nutrition Support (recorded) PN calculation practice (live)	**Kelly Kane MS, RD** Kathy Prelack, PhD, RD	Exam Due 2/22 by 11:59 pm
Week 6 2/22/23 1:30-4:30	Pediatric Weight Management (recorded) Intuitive Eating (recorded)	Kathy Prelack, PhD, RD Alicia Romano, MS, RD	Pediatric Weight Management Quiz due 2/28 by 11:59 pm Weight Management Case Study due 3/1 by 11:59 pm

	Weight Management (live)	**Lauren Fialkoff, MS, RD and Jillian Reece, RD** Kelly Kane, MS, RD	
Week 7 3/1/23 3:00 - 4:30	Cardiovascular Disease and Nutrition (recorded) Diabetes Mellitus (live)	Kelly Kane, MS, RD **Richard Siegel, MD** Kathy Prelack, PhD, RD	Nutrition and CVD Quiz due 3/7 by 11:59 pm Diabetes Case Study Due 3/8 by 11:59 pm
Week 8 3/8/23 3:00 – 4:30	Eating Disorders (recorded) Allergy (live)	Kelly Kane, MS, RD **John Leung, MD** Kathy Prelack, PhD, RD	Eating Disorder and Allergy Quizzes due 3/14 by 11:59 pm Paper Topics Due by 3/15 by 11:59 pm
Week 9 3/15/23 1:30-3:00	Liver Disease (recorded) Nutrition in Solid Organ Transplantation (synchronous via zoom)	Kelly Kane, MS, RD **Lauren Parsly Read-Button, RD** Kathy Prelack, PhD, RD	Solid Organ Transplant Quiz due 3/28 by 11:59 pm Liver Disease Case Study Due 3/29 by 11:59 pm
3/22/23	SPRING BREAK		
Week 10 3/29/23 No Synchronous class this week	Maldigestion and Malabsorption (recorded)	Kathy Prelack, PhD, RD Kelly Kane, MS, RD	Gastroenterology Case Study Due 4/5 by 11:59 pm
Week 11 4/5/23 1:30-3:00	Probiotics lecture (live)	**Joel Mason, MD** Kelly Kane, MS, RD Kathy Prelack, PhD, RD	
Week 12 4/12/23 1:30-4:30	Clinical Controversy	Student Presentation	In Class Clinical Controversy Panel
Week 13 4/19/23 1:30-3:00	Nutrition and Cancer (live)	**Hannah Wolf, MS, RD** Kelly Kane, MS, RD Kathy Prelack, PhD, RD	Cancer Quiz due 4/25 by 11:59 pm
Week 14 4/26/23 1:30-4:30	Kidney Disease (live) Nutrition in Kidney Disease (live)	**Dan Weiner, MD** **Poon Poon, MS, RD** Kathy Prelack, PhD, RD Kelly Kane, MS, RD	Kidney Disease Case Study Due 5/3 by 11:59 pm

Reading Period 5/3/23 1:30-4:30	Paper Presentations	Student Presentations	Paper due 5/10 by 11:59 pm
Finals Week 5/10/23 1:30-4:30	Paper Presentations	Student Presentations	

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

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

Week 1

Date of Class: 1/18/23
Course Topics: Nutrition Assessment, Biochemical Assessment, and Nutrition-focused Physical Examination
Learning Objectives:
Upon completion of this class, students will be able to:
Nutritional Assessment (recorded)

- Define and differentiate between nutrition screening and nutrition assessment.
- Name the components of a nutrition assessment and describe the features of each.

Biochemical Assessment (recorded):

- Identify the serum electrolytes and symptoms and potential causes of deficiencies and excesses.
- Name at least 2 markers of visceral protein status and the advantages and disadvantages associated with the use of each.
- Identify the components of a complete blood count and iron study and the role of each in the diagnosis of macrocytic and microcytic anemias.

Nutrition Focused Physical Examination (live)

- Identify the physical features that can be influenced by an individual's nutritional status.

Required Reading/Assignments:

- Kane and Prelack: Chapters 1 and 2
- White JV, Guenter P, Jensen G, et al. Consensus Statement of the Academy of Nutrition
- and Dietetics/American Society for Parenteral and Enteral Nutrition: Characteristics Recommended for the Identification and Documentation of Adult Malnutrition (Undernutrition) *J Acad Nutr Diet*. 2012;112:730-738
- Watch Nutrition Assessment and Biochemical Assessment recorded lectures
- Watch Nutrition in Pediatrics recorded lecture prior to week 2 class

Assignments Due:

- Complete Nutrition and Biochemical Assessment online quiz on Canvas due 1/24 by 11:59 pm.

Week 2

Date of Class: 1/25/23
Course Topics: Nutrition in Pediatrics
Learning Objectives:
Upon completion of this class, students will be able to:
Nutrition in Pediatrics (recorded):

- Describe assessment of nutritional status in children using appropriate tools and markers.
- Define energy and protein requirements in well and diseased children.

- Identify specific nutritional concerns during the nutritional support and management of hospitalized pediatric patients.

Pediatric Nutrition Assessment Activity and Failure to Thrive (live):

- Practice pediatric nutrition evaluation through growth chart utilization.
- Describe medical nutrition therapy in the management of failure to thrive.
- Define pediatric malnutrition and failure to thrive and the criteria for its diagnosis.
- Describe the role of medical nutrition therapy and the role of the registered dietitian in the management of failure to thrive.

Required Reading/Assignments:

- Kane and Prelack: Chapter 23

Assignments Due:

- Complete Pediatric Nutrition online quiz on Canvas due 1/31 by 11:59 pm.

Week 3

Date of Class: 2/1/23 (no synchronous class this week)
Course Topics: Nutrition in Developmental Disabilities and Nutrition-focused Physical Examination
Learning Objectives:
Upon completion of this class, students will be able to:

Nutrition in Developmental Disabilities (recorded):

- Describe various developmental disabilities, such as cerebral palsy, autism, ADHD, and Down Syndrome.
- Identify nutrition related concerns of these populations and interventions to address these concerns.

Nutrition Focused Physical Exam (videos):

- Identify the physical features that can be influenced by an individual's nutritional status.

Required Reading/Assignments

- Kane and Prelack: Chapter 26
- MQii Malnutrition Recognition Guide
- Watch Nutrition in Developmental Disabilities recorded lecture
- Watch Nutrition-focused Physical Examinations videos
- Watch Energy Expenditure, Body Composition, and Metabolic Support in Critical Illness recorded lecture prior to week 4 class

Supplementary Readings:

- Corkins KG. Nutrition-focused physical examination in pediatric patients. *Nutr Clin Pract*. 2015;30:203-209.
- DiBaise M, Tarleton SM. Hair, nails, and skin: differentiating cutaneous manifestations of micronutrient deficiency. *Nutr Clin Pract.* 2019;34:490–503.
- Esper DH Utilization of Nutrition-focused physical assessment in identifying micronutrient deficiencies. *Nutr Clin Pract*. 2015;30:194-202
- Pogatshnik C and Hamilton C. Nutrition focused physical examination: skin, nails, hair, eyes, and oral cavity. *Support Line*. 2011;33(2):7-13.

Assignments Due:

- Complete NFPE Worksheet due 2/7 by 11:59 pm.

Week 4

Date of Class: 2/8/23
Course Topics: Energy Expenditure/Body Composition and Enteral Nutrition Support
Learning Objectives:
Upon completion of this class, students will be able to:
Energy Expenditure, Body Composition and Metabolic Support in Critical Illness (recorded):

- Understand the inflammatory response following critical illness and the metabolic sequellae that accompany it particularly as it relates to energy and protein metabolism.
- Identify the effects of physiologic stress and altered nutrition on body composition.
- Determine appropriate goals for nutrition support using information related to energy expenditure, protein turnover, and substrate utilization during critical illness.

- Using the burn injury model, apply the concepts of assessment and metabolic support in critically ill.

Enteral Nutrition Support and Critical Care Practice Guidelines (live):

- Describe different types of enteral feedings, their distinguishing characteristics, and how they are given.
- Determine appropriate route, timing, and composition of enteral feeding in various patient settings.
- Identify tube feeding complications and strategies for their management.
- Describe composition of specialty enteral feedings and indications for their use.
- Review current Critical Care Practice Guidelines.
- Calculate a sample enteral nutrition regimen.

Required Reading/Assignments:

- Kane and Prelack: Chapters 3 and 5
- Watch Parenteral Nutrition Support recorded lectures prior to week 5 class

Assignments Due:

- Complete Energy Expenditure, Body Composition, and Metabolic Support in Critical Illness online quiz on Canvas due 2/14 by 11:59 pm.

Week 5

Date of Class: 2/15/23
Course Topics: Parenteral Nutrition Support
Learning Objectives:
Upon completion of this class, students will be able to:
Parenteral Nutrition Support (recorded/live):

- Name the components of parenteral nutrition.
- Identify the indications and contraindications for central and peripheral parenteral nutrition.
- Describe the potential mechanical and metabolic complications associated with use of parenteral nutrition.
- Calculate a sample parenteral nutrition regimen.

Required Reading/Assignments:

- Kane and Prelack: Chapter 4
- Watch Pediatric Weight Management and Intuitive Eating recorded lectures prior to week 6 class

Assignments Due:

- Complete Midterm Exam due 2/22 by 11:59 pm

Week 6

Date of Class: 2/22/23
Course Topics: Pediatric Weight Management, Intuitive Eating, Weight Management
Learning Objectives:
Upon completion of this class, students will be able to:
Childhood Weight Management (recorded):

- Define childhood obesity and the criteria for its diagnosis.
- Describe assessment of nutritional status in children with obesity using appropriate tools and markers.
- Identify intervention and treatment methods in childhood obesity.
- Describe the role of medical nutrition therapy and the role of the registered dietitian in the management of childhood obesity.

Intuitive eating (recorded):

- Identify the diet culture and detriments of chronic dieting.
- Describe traditional approaches to weight management and the history of BMI.
- Define weight stigma and the obesity paradox.
- Describe Health at Every Size and and Intuitive Eating including the 10 IE pillars.
- Identify how to apply HAES, IE, and non-weight centered care into clinical practice.

Weight Management (live):

- Define adult obesity.
- Describe the relationship between obesity and health.
- Identify useful methods of nutrition assessment in obesity.
- Describe both medical and surgical treatment approaches to obesity and their success rates.

Required Reading/Assignments:

- Kane and Prelack: Chapters 8 and 24
- Watch Cardiovascular Disease and Nutrition recorded lecture prior to week 7 class

Supplementary Readings:

- Jesuit C, Dillon C, Compher C., Lender C, et al. A.S.P.E.N. Clinical Guidelines: Nutritional Support of Hospitalized Pediatric Patients with Obesity. J Parenter Enteral Nutr. 2010; 34(1):13-20.
- Barlow SE. Expert Committee Recommendations Regarding the Prevention, Assessment and Treatment of Child and Adolescent Overweight and Obesity: Summary Report. Pediatrics. 2007;120;S164.

Assignments Due:

- Complete Pediatric Weight Management online quiz on Canvas by 2/28 by 11:59 pm
- Weight Management Case Study due 3/1 by 11:59 pm

Week 7

Date of Class: 3/1/23
Course Topics: Cardiovascular Disease and Diabetes Mellitus
Learning Objectives:
Upon completion of this class, students will be able to:
Nutrition in Cardiovascular Disease (recorded):

- Describe the role of dietary modifications in the prevention and treatment of cardiovascular disease.

Diabetes Mellitus (live):

- Identify the 4 classifications of DM and describe the features and risk factors of each.
- Name the classes of human insulins and analogues and describe the method of action of each.
- Describe the components of medical nutrition therapy for type 1 and type 2 DM.

Required Reading/Assignments:

- Kane and Prelack: Chapters 10 and 9
- Watch Eating Disorder recorded lecture prior to week 8 class

Supplementary Readings:

- American Diabetes Association. Standards of Medical Care in Diabetes, 2023. Diabetes Care. 2023; 46(1):S1-S298.
- Ajala O, English P, Pinkney J. Systematic review and meta-analysis of different dietary approach to the management of type 2 diabetes. Am J Clin Nutr. 2013;97:505–16.
- Elia M, Cerriello A, Laube H, et al. Enteral nutritional support and use of diabetes-specific formulas for patients with diabetes. Diabetes Care. 2005;28(9): 2267-2279.
- Garner C, Wylie-Rosett J, Gidding SS. Nonnutritive sweeteners: current use and health perspectives. Diabetes Care. 2012;35:1798-1807.
- Hamdy O and Horton ES. Protein content in diabetes nutrition plan. Curr Diab Rep. 2011;11:111-119.
- Joslin Diabetes Center and Joslin Clinic. Clinical nutrition guideline for overweight and obese adults with type 2 diabetes, prediabetes or those at high risk for developing type 2 diabetes. 2007.
- Prevention or delay of type 2 diabetes. Diabetes Care.2016;39 (Suppl. 1):S36–S38.
- Sheard NF, Clark NG, Brand-Miller JC, et al. Dietary carbohydrate (amount and type) in the prevention and management of diabetes. Diabetes Care. 2004;27(9): 2266-2271.
- Wheeler ML. Dunbar SA, Jaacks SM, et al. Macronutrients, food groups, and eating patterns in the management of diabetes. Diabetes Care. 2012;35: 434-445.

Assignments Due:

- Complete Nutrition and CVD online quiz on Canvas by 3/7 by 11:59 pm
- Diabetes Case Study due 3/8 by 11:59 pm

Week 8

Date of Class: 3/8/23
Course Topics: Eating Disorders and Allergy
Learning Objectives:
Upon completion of this class, students will be able to:

Eating Disorders (recorded):

- Recognize the differences between disordered eating and eating disorders and classify eating disorders.
- Identify nutrition related consequences of disordered eating and eating disorders.
- Describe the role of the registered dietitian and of medical nutrition therapy in the treatment of eating disorders.

Allergy (live):

- Describe the relationship between food allergens and the immunological response.
- Distinguish between food allergies, food intolerances, and food sensitivities.
- Identify symptoms related to food allergies and food intolerances.

Required Reading/Assignments:

- Kane and Prelack: Chapter 25
- Watch Liver Disease recorded lecture prior to week 9 class

Supplementary Readings:

- Du Toit G et al. Randomized Trial of Peanut Consumption in Infants at Risk for Peanut Allergy. N Engl J Med. 2015; 372:803-813.
- Hays T. Special considerations for managing food allergies. J Parenter Enteral Nutr. 2012;36:56S-59S.
- Valenta R, et al. Food allergies: the basics. *Gastroenterol* 2015;148:1120–1131.

Assignments Due:

- Complete Eating Disorder and Allergy online quizzes on Canvas due 3/14 by 11:59 pm
- Submit Paper Topic by 3/15 by 11:59 pm

Week 9

Date of Class: 3/15/23
Course Topics: Liver Disease and Nutrition in Solid Organ Transplantation
Learning Objectives:
Upon completion of this class, students will be able to:
Liver Disease (recorded):

- Describe the association between liver disease and malnutrition.
- Name the possible causes and treatment of various types of liver disease.
- Identify the signs and symptoms of liver disease and the nutritional implications of each
- Define the consequences of liver disease (i.e., portal hypertension, varices, ascites, and hepatic encephalopathy) and describe the nutritional management of each.

Solid Organ Transplantation (live):

- Describe medical nutrition therapy post solid organ transplant, including liver, cardiac, and renal transplants.
- Describe the nutritional implications of common medications in solid organ transplants.

Required Reading/Assignments:

- Kane and Prelack: Chapters 15 and 18

Assignments Due:

- Complete Solid Organ Transplantation online quiz on Canvas by 3/28 by 11:59 pm
- Liver Disease Case Study due 3/29 by 11:59 pm

Spring Break: 3/22/23

Week 10

Date of Class: 3/29/23 (no synchronous class this week)
Course Topics: Maldigestion and Malabsorption
Learning Objectives:
Upon completion of this class, students will be able to:
Gastroenterology (recorded):

- Define and differentiate maldigestion and malabsoption.
- Identify factors with cause maldigestion and malabsorption.
- Describe the efficacy and safety of using probiotics and prebiotics under specific clinical conditions.

- Describe the clinical manifestations and nutritional management of several gastroenterological disease states, such as pancreatitis and inflammatory bowel disease.

Required Reading/Assignments:

- Kane and Prelack: Chapters 12 and 13
- Watch Maldigestion and Malabsorption recorded lectures

Assignments Due:

- Gastroenterology Case Study due 4/5 by 11:59 pm

Week 11

Date of Class: 4/5/23
Course Topics: Probiotics
Learning Objectives:
Upon completion of this class, students will be able to:
Probiotics (live):

- Describe the difference between prebiotics and probiotics.
- Summarize the current literature about the efficacy of probiotics in various disease states.

Required Reading/Assignments:

- Read Assigned Clinical Controversies paper and prepare for Clinical Controversy Panel

Assignments Due: ----

Week 12

Date of Class: 4/12/23
Course Topics: Clinical Controversy Panel
Learning Objectives:
Upon completion of this class, students will be able to:

- Interpret scientific research as presented in peer reviewed journals
- Abstract relevant information
- Communicate findings effectively and persuasively to others

Assignments Due:

- In Class Clinical Controversy Panel Discussion

Week 13

Date of Class: 4/19/23
Course Topics: Cancer
Learning Objectives:
Upon completion of this class, students will be able to:
Cancer (live):

- Define cancer, identify types of cancer, potential causes, and treatment options.
- Identify the nutritional implications associated with cancer and its treatment.
- Describe conventional nutritional therapies and complementary and alternative medicine in cancer treatment

Required Reading/Assignments:

- Kane and Prelack Ch 19

Assignments Due:

- Complete Cancer online quiz on Canvas due 4/25 by 11:59 pm

Week 14

Date of Class: 4/26/23
Course Topics: Kidney Disease

Learning Objectives:
Upon completion of this class, students will be able to:
Kidney (live):

- Describe the causes and management of acute kidney injury and chronic kidney disease.
- Name the nutritional concerns and outline the nutritional requirements and dietary modifications associated in chronic kidney disease.
- Describe the methods of renal replacement therapy and the nutritional requirements and dietary modifications associated with each in end stage kidney disease.

Required Reading/Assignments:

- Kane and Prelack Ch 14

Assignments Due:

- Kidney Disease Case Study due 5/3/23 by 11:59 pm

Week 15/Reading Period

Date of Class: 5/3/23
Course Topics: Student Paper Presentations
Assignments Due:

- Prepare Paper Presentation for in class presentation

Week 16/Finals Week

Date of Class: 5/10/23
Course Topics: Student Paper Presentations
Assignments Due:

- Submit Paper due 5/10/23 by 11:59 pm

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