

COURSE NAME; NUMBER; SEMESTER; MEETING DAYS, TIMES, AND PLACE.

Nutrition and Disease (709:498; 3 credits)

Tuesday: and Thurs

Course Location: FNH

CONTACT INFORMATION:

Instructor: S. Shapses, PhD, RDN, Department of Nutritional Sciences (secondary: Dept of Medicine, Rutgers-RWJ Medical School)

Phone: 848-932-9403; shapses@rutgers.edu

Office Hours: Wed (5-6 -Zoom link in course) or after class **or by appointment.**

- Dr. Shapses Office Hours: By appointment and you can self-book an appointment: <http://sueshapses.youcanbook.me/>
- Teaching Assistant: TBD Office Hours after class and TBD.

Course Prerequisites: Advanced Nutrition (one semester of 709:401 or 709:402).

COURSE WEBSITE, RESOURCES AND MATERIALS:

- Resources and materials will be made available on the class Canvas website.
- **Text: Krause's Food and the Nutrition Care Process, 15th Edition, Mahan LK, Raymond JL. Elsevier, 2021.** <https://evolve.elsevier.com/cs/product/9780323636551?role=student>
- **ADA Exchange booklet for diabetes project (optional to purchase)**
- **Optional:** Nelms, M, Roth, S. Medical Nutrition Therapy:A Case Study Approach. 5th Ed. Cengage Learning, 2017. **Stedman's Medical Dictionary. Food-Medication Interactions.** www.foodmedinteractions.com

COURSE DESCRIPTION:

The pathophysiology of diseases states and how it relates to nutritional concerns in patients at risk of nutritional complications. This includes an introduction to diet therapy, case studies and patient advice for each disease state.

Course Prerequisites: Advanced Nutrition (709:401; 709:402; at least one semester).

LEARNING OBJECTIVES:

1. To understand how to take up-to-date scientific knowledge of diseases and apply it to solve nutritional problems.
2. To learn how to approach nutritional treatment of disease and in-patient education. To translate complicated medical nutrition treatment into practical patient care.
3. To become familiar with a diabetes case study that allows students to learn how to calculate a diabetic diet that includes food exchanges, carbohydrate counting and a sample diet.
4. To become familiar with a diabetes case study that allows students to learn how to calculate a diabetic diet that includes food exchanges, carbohydrate counting and a sample diet.
5. Students will understand that foods interact with medications and herbal supplements may affect nutrition-related disease outcomes
6. Students will learn the legal considerations for clinicians, with a focus on dietitian/nutritionists

2022 Core Knowledge for the RDN (KRDN) – Standards for the Didactic Programs in Dietetics:

Rutgers University Department of Nutritional Sciences undergraduate Didactic Program in Dietetics is accredited by the Accreditation Council for Education in Nutrition and Dietetics (ACEND) of the Academy of Nutrition and Dietetics (AND). The following ACEND Core Knowledge aptitudes are included within the curriculum of this course:

KRDN 1.1*: Demonstrate how to locate, interpret, evaluate and use professional literature to make ethical, evidence-based practice decisions (i.e., **heart failure case study and genomics project**).

KRDN 1.2*: Select and use appropriate current information technologies to locate and apply evidence-based guidelines and protocols (i.e., **heart failure case study and genomics project**).

KRDN 1.3: Apply critical thinking skills (i.e., in-class case studies, independent research projects).

KRDN 2.1: Demonstrate effective and professional oral and written communication and documentation (i.e., ADIME and PES in case study assignments).

KRDN 2.2: Describe the governance of nutrition and dietetics practice, such as the Scope of Practice for the Registered Dietitian Nutritionist and the Code of Ethics for the Profession of Nutrition and Dietetics. (i.e., legal lecture with discussions on case studies)

KRDN 2.5*: Identify and describe the work of interprofessional teams and the roles of others with whom the registered dietitian nutritionist collaborates (i.e., heart failure case study and genomics project, in-class discussions on various case studies and simulations).

KRDN 2.6: Demonstrate cultural humility, awareness of personal biases and an understanding of cultural differences as they contribute to diversity, equity and inclusion (i.e., diabetes cultural case study).

KRDN 3.1*: Use the Nutrition Care Process and clinical workflow elements to assess nutritional parameters, diagnose nutrition related problems, determine appropriate nutrition interventions and develop plans to monitor the effectiveness of these interventions (i.e., **heart failure case study and genomics project**; case studies).

KRDN 3.3: Demonstrate counseling and education methods to facilitate behavior change and enhance wellness for diverse individuals and groups. (i.e., diabetes cultural case study assignment).

KRDN 3.4: Practice routine health screening assessments, including measuring blood pressure and conducting waived point-of-care laboratory testing (such as blood glucose or cholesterol) (i.e., assessment/clinical measurement tools used in various settings such as Bod Pod, BIA, and DXA).

KRDN 3.5*: Describe concepts of nutritional genomics and how they relate to medical nutrition therapy, health and disease (i.e., **heart failure case study and genomics project**).

KRDN 5.4: Practice resolving differences or dealing with conflict (i.e., nutrition support case study).

KRDN 5.5: Promote team involvement and recognize the skills of each member (i.e., nutrition support case study).

*Indicates a Student Learning Outcome. If you receive less than 70% on an assessment of a KRDN Student Learning Outcome, you will be required to redo the assignment until you pass (no grade change). If not, you may not receive a Verification Statement required to enter a supervised practice program.

ASSIGNMENTS/RESPONSIBILITIES & ASSESSMENT:

- Exam I 22%
- Exam II 22%
- Exam III 23%
- Flipped Class (4%); Topic weekly quizzes (6%); Herb/Drug 3%; Heart Failure and Genomics Case and Res project (8%); Db Case Study 4%; Other in-class Case Studies/participation- 7%
- Participation – In class activities (breakout room activities; mandatory attendance for guest lectures, etc). Topic quizzes will be done independently and can be taken up to 2 times (highest score used for your grade).

Attendance: If there is a reason you can't be in class on days when there are guests or projects are due, this should be reported at the website that automatically sends me an email. As needed, you can submit projects by the end of the same day that it is due (late submissions-10% off).

Tentative Schedule: (subject to adjustment) – sample dates for a spring course

Tuesday (# = Krause chapters with other sources)	Thursday
January 16 th Introduction (and review of the Nutrition Care Process/Assessment)	January 18 – Review of Heart Failure + Nutr Genomics: HF and Genomics comprehensive project; Chapters #32 + #6
January 23 GI Disease: Oral plus Stomach & small intestine (#24+#26)	January 25 Lower GI Disorders;; pancreatitis and cystic fibrosis* (#27-28)
January 30 Liver Disease and Alcohol Chapter #28	February 1 Neurological- stroke, ALS, etc (Chapters #39-40) flipped
February 6 Exam I	February 8 - Legal /Ethical Issues (Dr. Cross) *
February 13 - Methods of Nutrition Support (Ent. Nutrition)* Chapter #12	February 15 Parenteral Nutrition; TPN * calculations Chapter #12
February 20 Diabetes – Food Exchanges and Diabetic diet - Write a diabetic diet* (#29 and ADA/AND booklet)	February 22 Diabetes, Acute & Long-term complications (#29)
February 27 - Pediatrics - Inborn Errors (Dr. Watford) (Diabetes project due)	February 29 - Obesity and Bariatric surgery
March 5 Simulation - Celiac Case study; Groups of 2	March 7 Exam II
March 12 - Spring break	March 14 - Spring break
March 19 Osteoporosis (use ppt slides+chapter #23)- virtual Heart and Genomics project is due this week	March 21 Fracture and start obesity; Visit the DXA lab Heart and Genomics project is due
March 26– Critically Ill –Trauma, Sepsis, Burns (#37)	Mar 28 - * Trauma Case Study & Intro Herb Supplement
April 2 – Respiratory/Pulmonary Disease #33 - virtual	April 4– Immune System, Diseases (#36&38);
April 9 – Geriatrics (long term care; memory care patients; pressure ulcers); MN scores Chapter #19	April 11 - Drug/Herb/Nutrient Interactions Drug herb word doc is due online for all students

April 16 Renal Disease Part I Chap #34 - **virtual**

April 18 – Drug/Herb/Nutrient Interactions

April 23 - Renal Disease – Part II* (Chap #34)

April 25 – Cancer-brief (#35); MNT **Review**

Wed. May 8th – **EXAM 3 (70 min)**

Course Policies

Attendance: Attendance significantly improves test performance and you should attend all classes. During class, you are expected to be attentive and participate. Please arrive to class on time to avoid distracting your classmates. To eliminate distractions during class, laptop computers are to be used only for lecture slides or note taking. Please turn off cell phones and do not use other electronic devices during class.

Absences, If you expect to miss class, please use the University absence reporting website <https://sims.rutgers.edu/ssra/> to indicate the date and reason for your absence (an email will automatically be sent to me). In cases where you must miss classes or recitations for periods longer than one week, please contact a Dean of Students for assistance to help verify your circumstances.

Academic Integrity

Strict Adherence to Rutgers Academic Integrity Policy will be followed, and papers submitted will be examined on Turnitin.com. For information about student conduct, please see: <http://studentconduct.rutgers.edu/> Also, you can view the university’s Academic Integrity Policy at the following website: <http://academicintegrity.rutgers.edu/integrity.shtml>

AVAILABLE STUDENT SUPPORT SERVICES

- ***If you are having personal or other problems, there are many options at Rutgers for assistance.***
 - Student Affairs office can help with issues related to your experience at Rutgers and when you don’t know where to start when looking for assistance, contact the [Dean of Students office](#).
 - If are in need of *mental health* services, please use our readily available services. Rutgers [Counseling, Alcohol and Other Drug Assistance Program & Psychiatric Services](#) (CAPS)
 - If you need some temporary guidance, there is **“Let’s Talk”** – which is a CAPS service offering drop-in hours at locations across campus. No appointment is necessary. <http://health.rutgers.edu/medical-counseling-services/counseling/therapy/community-based-counseling/#runbhc>
- **If you are in need of *physical health* services** due to illness, please reach out to:
Rutgers Health Services – New Brunswick: <http://health.rutgers.edu/>
- **If you do not have enough food**, there is a Food Pantry on College Ave campus that is exclusively for Rutgers Students. <http://ruoffcampus.rutgers.edu/food/>
- If you need accommodation for a **disability**, obtain a Letter of Accommodation from the Office of Disability Services that provides student-centered and inclusive services. <https://ods.rutgers.edu>

- If you are a **military veteran** or are on active military duty, you can obtain support through the Office of Veteran and Military Programs and Services. <http://veterans.rutgers.edu/>
- If you are in **need of legal services**, please use our readily available services: <http://rusls.rutgers.edu/>
- If you are in need of additional **academic assistance**, please use our readily available services. Rutgers University-New Brunswick Learning Center: <https://rlc.rutgers.edu/>.
- If you or somebody you know has been victimized by a **crime, interpersonal violence** (e.g., stalking, sexual assault), support is available at the Rutgers Office for Violence Prevention and Victim assistance. <http://vpva.rutgers.edu>

PLAN FOR ASSESSMENT OF COURSE LEARNING GOALS & EVALUATION CRITERIA

Student Learning Goals for MNT-II course:

7. To understand how to take up-to-date scientific knowledge of diseases and apply it to solve nutritional problems.
8. To learn how to approach nutritional treatment of disease and in-patient education. To translate complicated medical nutrition treatment into practical patient care.
9. To become familiar with a diabetes case study that allows students to learn how to calculate a diabetic diet that includes food exchanges, carbohydrate counting and a sample diet.
10. To become familiar with a diabetes case study that allows students to learn how to calculate a diabetic diet that includes food exchanges, carbohydrate counting and a sample diet.
11. Students will understand that foods interact with medications and herbal supplements may affect nutrition-related disease outcomes
12. Students will learn the legal considerations for clinicians, with a focus on dietitian/nutritionists

Other objectives in this course include:

- a. To formulate, organize and plan diets for nutrition related diseases in adults and children
- b. To utilize the Nutrition Care Process using ADIME (PES) and contributions of biochemical assessment, Nutrition Focused Physical Exam and apply it to case studies in a range of diseases.
- c. Demonstrate effective knowledge in the pathophysiology of disease states. and professional oral and written communication and documentation. Describe the interaction of nutrition and diet with the following diseases (Weight counseling in obesity/overweight persons, and bariatric patients; gastrointestinal diseases, neurological diseases, Liver diseases, respiratory diseases, immunological (HIV, SARS, etc.), critically ill patients, osteoporosis, oncology and renal disease)
- d. Be able to discuss how basics of the gut microbiome interact with food and may be important in related diseases.
- e. Understand there are different clinical nutrition concerns throughout the lifespan including the geriatric patient and pediatric population.

Learning goal 1: Students will about common nutrition related diseases and tested with exams. This will also be addressed by in-class participation and quizzes afterwards (post-tests).

Learning goal 2: Will be addressed through discussions in class and their ability to perform calculations and a case study that involves a patient requiring nutrition support.

Learning goal 3: Will use case studies in clinical scenarios to understand the complexity of patient nutrition-related conditions (in class activity) followed up with graded submission.

Learning goal 4: To learn how to use the Food Exchanges for weight management to calculate a diet for weight management or loss in overweight or obese persons and those with diabetes.

Learning goal 5: To understand drug-nutrient interactions and medicinal herbals for nutrition related problems, students will prepare educational material and present to other students.

Learning goal 6: Student will learn about legal issues related to dietetics and do a case study

Assignment/Prompt Used to Assess Student Achievement

- There will be 3 multiple choice and fill-in exams to evaluation student performance
- Case studies will be used to evaluate student performance throughout the semester and a case study presentation will be expected by all students at the last weeks of the semester. We will assess all students' achievement of the learning goals and KRDNs (necessary in this pre-professional course by Academy of Nutrition and Dietetics knowledge requirements).

- There will be post-tests for each topic that students can take independently online to test their knowledge
- Students will learn about neurological diseases using a flipped classroom model where they come prepared and teach one another specific material assigned to them in small groups.
- Students will prepare a 1 page Drug-Nutrient interaction summary of a single drug or herb and present to all students in the classroom.
- A faculty (RD/RDN) will be assessing student work. This can be a TA with these credentials or faculty with RD/RDN assisting the TA. Hence, there may be more than one persons rating and review each student's work.

Evaluation Criteria

It is expected that at least 70% of students will have greater than a C grade on exams, case studies or post-tests in this course, and that all will successfully complete the case studies and the final presentation (or a make-up project if there is a serious reason the student cannot complete this assignment). Rubrics will be used to evaluate presentations (using categories such as organization, style, creativity, content, clarity)

1. Plans to Use Assessment Results

Individual instructors will review the performance on exams to inform future teaching.

The Department will plan to review this new course and how it fits within the new curriculum, at all Curriculum Committee meetings on an annual basis (for this course taught once per year). Revisions will be made to ensure the learning goals are met. This course is one of 3 new ones that focus on medical nutrition therapy and all instructors of these courses will be asked to meet annually to share pedagogical best practices.