

SYLLABUS

11:709:255:02 Nutrition and Health - Fall 2021

Tuesdays and Fridays, 11:00 – 12:20 PM

101 Hickman Hall (HCK-101)

Canvas Site: 11:709:255:02 NUTRITION AND HEALTH

Instructor: Joshua W. Miller, Ph.D.

Office: Food Science and Nutritional Sciences Building, Room 107

Cook/Douglass Campus

65 Dudley Road

E-mail: jmiller@sebs.rutgers.edu (preferred form of communication)

Phone: (848) 932-5428

Office Hours: Tuesdays, 1:30 – 3:00 PM or by appointment (in-person, Zoom, or phone)

Overview: This course is designed to give the student an introduction and firm foundation in the science of nutrition, and emphasizes how nutrition influences health and wellbeing. Those who take the course are from varied backgrounds. Some take the class because they are majoring in nutrition, biology, or other science or health-related discipline. Others take the course because they have an interest in nutrition (as all should!), but only have a limited science background (e.g., high school chemistry and biology). This represents a challenge in teaching the class. In order to provide a deep enough foundation for the nutrition and science majors, we do touch on aspects of chemistry, biochemistry, and physiology. However, this should not deter the non-science majors! There are no prerequisites of college level science courses for the class, and aspects of chemistry, biochemistry, and physiology will be presented at a level that both majors and non-majors can understand. It is our experience that students who attend lectures and read the text on a consistent basis, more often than not, receive a “good” grade. By the end of the course, it is our goal that students will not only understand basic nutritional concepts and issues, but will begin to be able to understand the scientific basis for those concepts.

Required Textbook: Several Options – Read Carefully!

EBK MindTap Nutrition, 1 term (6 months), instant access for McGuire M and Beerman KA, Nutritional Sciences: From Fundamentals to Food. Cengage, ISBN: 9781337396028 (through Barnes and Noble at Rutgers: <https://rutgers.bncollege.com/>)

- Digital Purchase (online access for 365 days, perpetual offline download access) \$141.25
- Digital Rental (expires after 180 days) \$141.25

or

McGuire M and Beerman KA. Nutritional Sciences: From Fundamentals to Food, Upgraded 3rd Edition. ISBN: 9781337565332

- Hard copy
- New and used versions available through Amazon and other online sites (varying prices)

Lectures: Regular class times will include lectures with powerpoint slides and in-class poll questions (conducted through the course Canvas site via the “quiz” feature). The poll questions are designed to review key topics of each lecture, with reinforcement of the correct answers through review of the applicable lecture slides. The powerpoint slides (without poll questions) will be provided in advance of each class with and without voiceover (except for day 1). Powerpoint slides with the poll questions (and answers) will be made available after each class. It is highly recommended that you view/listen to the slides with voiceover in advance of the class, as well as read the assigned chapters from the textbook. The poll questions will not be graded, but your participation will be recorded as an indication of attendance. Also, during live classes, we will cover current issues and topics that are relevant to that day’s subject matter. And YES, questions about these extra topics may appear on the exams. Students are encouraged to ask questions during class.

Online Quizzes: On weeks when there is not an exam, online quizzes will be assigned. These quizzes (10 total for the semester) will be made available on Friday afternoons after class (i.e., sometime after 12:20 PM). You will have until 10:55 AM on the following Tuesday to complete the quiz. They will be administered through the course Canvas site “quiz” feature. They will be multiple-choice questions and are designed to motivate you to review the lectures and read the assigned textbook chapters. The quizzes are open book and are graded as follows: 5 points for submitting on time; 0 points for submitting late or not at all. (Note that you will at first receive a score so you know how well you did, but then later the score will be changed to 5 points if submitted on time.) Many quiz questions will appear on exams. The rationale is that by seeing the same questions more than once, your retention will be better.

Exams: All exams are mandatory – no exceptions! There will be 3 mid-term exams and a final exam.

- Exam 1 will cover all materials (lectures, readings, and online quizzes) from the 1st day of class to the day of exam 1.
- Exam 2 will cover all materials since exam 1 to the day of exam 2.
- Exam 3 will cover all materials since exam 2 to the day of exam 3.
- The final exam will cover all materials since exam 3 to the last day of classes (i.e. it is NOT comprehensive).

All exams will be held in the classroom and will be closed book, closed notes, and conducted online through the course Canvas site. You will be allowed to use a laptop, tablet, or phone for the exams, but will not be allowed to access notes, powerpoints, websites, etc... during the exam. There will be NO make-up exams without an official doctor’s note (on office or hospital letterhead) or a note from the Dean’s office of your school. You must bring a student ID or driver’s license to all exams. Your exam will NOT be accepted if your student ID or driver’s license is not presented. All exams will be given in HCK-101 including the final exam. Dates for the 3 mid-term exams and the final exam are listed in the course schedule. The day/time of the final exam is Friday, Dec. 17, 8:00-11:00 AM.

Dietary and Physical Activity Assignments: Instructions and due dates for the dietary and physical activity assignments will be provided in class and on the course Canvas site.

Grading: Grades will be calculated on a point system.

Exam 1	100 points
Exam 2	100 points
Exam 3	100 points
Final Exam (not comprehensive)	100 points
Dietary Assignment	30 points
Physical Activity Assignment	20 points
Online Quizzes	50 points (10 quizzes total, 5 points each)
Total Points	500 points

Final Grade Allocation: There will be NO negotiating of grades. All final grade percentages will be rounded up to the higher whole number (e.g., “90.1%” will be rounded up to “91%”, but “90.0%” will remain “90%”). Final grade ranges are as follows:

A = 91-100%	C = 71-75%
B+ = 86-90%	D = 61-70%
B = 81-85%	F <61%
C+ = 76-80%	

Academic Integrity: The principles of academic integrity require that a student:

- make sure that all work submitted in a course, academic research, or other activity is the student’s own and created without the aid of impermissible technologies, materials, or collaborations.
- properly acknowledge and cite all use of the ideas, results, images, or words of others.
- properly acknowledge all contributors to a given piece of work.
- obtain all data or results by ethical means and report them accurately without suppressing any results inconsistent with the student’s interpretation or conclusions.
- treat all other students ethically, respecting their integrity and right to pursue their educational goals without interference. This principle requires that a student neither facilitate academic dishonesty by others nor obstruct their academic progress.
- uphold the ethical standards and professional code of conduct in the field for which the student is preparing.

Please read the full Rutgers University Academic Integrity Policy, effective June 2, 2020, at <http://academicintegrity.rutgers.edu/>.

COVID Protocols:

In order to provide everyone with a safe learning environment, you are asked to abide by the following rules for attending this class:

Follow all Rutgers Community Safety Practices: <https://coronavirus.rutgers.edu/health-and-safety/community-safety-practices/>

When you come to campus to attend class, be sure to renew your Campus Pass on MyRutgers.

If you feel unwell, DO NOT attend class. Let me know and I will work with you to make up work.

I will be wearing a mask while I am lecturing. Every student in this class will also be expected to wear an appropriate mask (exhaust valves not permitted), properly cared for, and worn, covering both the mouth and nose, as detailed in the Rutgers Community Safety Practices. Please come to class prepared. If you forget, a disposable mask will be provided. I will not begin each class session until everyone is wearing a mask.

Please let me know if you cannot clearly hear what I am saying. Speaking through a mask is challenging. If you let me know I can modify my mask and speech to be clearer.

Maintain distance from classmates. Spread out into available seats. Try not to sit next to another student (there should be plenty of room in HCK-101). Do not gather in groups before and after class. Do not rush the doors when departing class, rather, exit the classroom in an orderly manner, waiting for your turn to reach the doors.

Please wash your hands or sanitize them before coming to class and after departing.

Student Learning Outcomes for Nutrition and Health (11:709:255): After completing this course, the student will:

1. Be familiar with research methods in nutritional sciences
2. Have a working knowledge of dietary guidelines, methods of dietary assessment, and nutritional food labels
3. Be familiar with the digestive system and the roles of other important organs in the regulation of nutrient utilization
4. Have foundational and discerning knowledge of protein, carbohydrate and fat metabolism
5. Utilize food composition tables and nutrition software to calculate the nutrient intake and adequacy of their diet
6. Have foundational knowledge of how the body utilizes macronutrients to produce useable energy
7. Recognize the complexities of weight gain and loss and the magnitude of the obesity problem in the US and the world
8. Be familiar with the sources and functions of vitamins and minerals
9. Know which and under what circumstances dietary supplements are recommended
10. Understand the nutritional needs of individuals during different stages of life

11. Have a foundational knowledge of the role of nutrition in the development and treatment of chronic diseases
12. Be able to actively and effectively participate in the debate on food choices in society
13. Be familiar with current issues and research topics in health and nutritional sciences

School of Arts and Sciences Learning Goals:

1. 21st Century Challenges [21C]:
 - a) Analyze the degree to which forms of human difference shape a person's experiences of and perspectives on the world.
 - c) Analyze the relationship that science and technology have to a contemporary social issue.
2. Areas of Inquiry: Natural Sciences [NS]:
 - e) Understand and apply basic principles and concepts in the physical or biological sciences.
 - f) Explain and be able to assess the relationship among assumptions, method, evidence, arguments, and theory in scientific analysis.

2017 Core Knowledge for the RDN (KRDN) – Standards for 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:

1. KRDN 1.2: Use current information technologies to locate and apply evidence-based guidelines and protocols (i.e., online USDA food intake data spreadsheets).
2. KRDN 1.3: Apply critical thinking skills (i.e., report on assessment of dietary intake using USDA Supertracker website; evaluate values for nutrients in diet and determine if meeting requirements).
3. KRDN 2.1: Demonstrate effective and professional oral and written communication and documentation (i.e., dietary intake assessment report)
4. KRDN 3.5: Describe basic concepts of nutritional genomics (i.e., lecture on nutritional genomics assessed via mid-term exam and online quiz).
5. KRDN 4.6: Analyze data for assessment and evaluate data to be used in decision-making for continuous quality improvement (i.e., report of dietary intake assessment; evaluate values for nutrients in diet and determine if meeting requirements).

COURSE SCHEDULE
11:709:255:02 Nutrition and Health
Fall 2021: Tuesdays and Fridays, 11:00 – 12:20 PM
101 Hickman Hall (HCK-101)

Class #	Date	Topic	Readings
#1	Friday September 3	Introduction to Course Syllabus Review Definitions of Basic Nutrition Terms A Brief History of Nutrition	Syllabus Chapter 1
#2	Tuesday September 7	The Science and Practice of Nutrition Dietary Guidelines Assessing Dietary Intake and Status	Chapters 1 + 2
#3	Friday September 10	Chemistry and Nutrition	Chapter 3
#4	Tuesday September 14	Digestion and Digestive Disorders	Chapter 3
#5	Friday September 17	Carbohydrates	Chapter 4
#6	Tuesday September 21	Diabetes	Chapter 4
#7	Friday September 24	Amino Acids and Proteins	Chapter 5
#8	Tuesday September 28	Protein Deficiency and Excess Protein Requirements Review for Exam 1	Chapter 5
#9	Friday October 1	Exam 1	Chapters 1-5
#10	Tuesday October 5	Lipids	Chapter 6
#11	Friday October 8	Lipids Cardiovascular Disease Dietary Assignment - Assigned	Chapter 6
#12	Tuesday October 12	Energy Metabolism	Chapter 7
#13	Friday October 15	Energy Balance	Chapter 8
#14	Tuesday October 19	Obesity and Weight Regulation	Chapter 8
#15	Friday October 22	Nutrition & Physical Activity Review for Exam 2	Chapter 9
#16	Tuesday October 26	Exam 2	Chapters 6-9
#17	Friday October 29	Water Soluble Vitamins	Chapter 10
#18	Tuesday November 2	Water Soluble Vitamins	Chapter 10

#19	Friday November 5	Fat Soluble Vitamins (A, E, K)	Chapter 11
#20	Tuesday November 9	Vitamin D Bone-Related Major Minerals Bone Health	Chapters 11 + 12
#21	Friday November 12	Major Minerals and Water Complete Dietary Assignment Due	Chapter 11
#22	Tuesday November 16	Trace Minerals	Chapter 12
#23	Friday November 19	Trace Minerals Review for Exam 3	Chapter 13
#24	Tuesday November 23	Exam 3	Chapters 10-13
	Friday November 26	Thanksgiving Break (No Class)	
#25	Tuesday November 30	<u>Special Topic</u> Nutrition and the Microbiome	
#26	Friday December 3	<u>Special Topics</u> Genetics and Epigenetics Cancer	
#27	Tuesday December 7	Life Cycle Nutrition I	Chapter 14
#28 (Last Class)	Friday December 10	Life Cycle Nutrition II <u>Special Topic</u> Dietary Supplements Review for Final Exam Physical Activity Assignment Due	Chapter 14
	Friday December 17 8:00 AM – 11:00 AM	FINAL EXAM	Chapter 14 and Special Topics