

Updated on July 22, 2022

Course Number and Name and Semester
MSBS 5150Q: Medical Nutrition & Disease, Fall 2022 semester

COURSE DESCRIPTION:

Medical Nutrition and Disease; MSBS 5150Q

**Course Co-Directors: John D Bogden, PhD, Professor,
& Sylvia Christakos, PhD, Distinguished Professor,
Department of Microbiology, Biochemistry, and Molecular Genetics, Rutgers New Jersey
Medical School, Newark, NJ**

When Offered: Fall, 2022 Semester: September 21--December 7, 2022

Wednesdays: 1:00 PM—4:00 PM, CLASSROOM: TO BE DETERMINED

COURSE OBJECTIVES:

After completion of the course, students will be able to:

1. identify sources of reliable print and web-based nutrition information.
2. recognize the role of nutrition in the prevention and management of common diseases, including cardiovascular disease, kidney disease, and cancer.
3. explain the role of diet in the etiology and prevention of disease at various life stages, including pregnancy, lactation, infancy, childhood, adolescence, adulthood, and advanced age.
4. describe the extent, benefits, and risks of use of nutritional supplements.
5. describe key public health nutrition guidelines, including the 2020-2025 Dietary Guidelines for Americans, Dietary Reference Intakes, 2018 Physical Activity Guidelines for Americans, and Daily Values.
6. discuss food safety, foodborne illnesses, and other threats to the food supply.
7. explain the role of dietary energy, body weight, body mass index, and physical activity in the prevention and management of disease.
8. recognize the essential vitamins, minerals, and trace minerals, mechanisms by which they exert their effects, and their roles in prevention and treatment of disease.
9. distinguish nutrition fads and fallacies from valid nutritional concepts and practices.
10. recognize that nutrition and physical activity can have direct, substantial, and long-term effects on growth and development, health maintenance, and disease prevention and treatment

COURSE FORMAT:

“Medical Nutrition & Disease” is a School of Graduate Studies 2-credit course. Students are required to attend 7 lectures and/or view the lecture podcasts (about 21 hours) and to submit a “Student Research Report” on a nutrition topic. In the fall, 2021 semester, there will be 2 in-class Exams, each comprising 30% of a student’s final grade. The exams cannot be taken remotely. The graded “Student Research Report” will comprise 40% of the grade. The course enrollment minimum = 18 students, and the enrollment maximum = 40 students.

Course Number and Name and Semester
MSBS 5150Q: Medical Nutrition & Disease, Fall 2022 semester

FACULTY AND STAFF: SEE TABLE BELOW

WEEKLY SCHEDULE: FALL SEMESTER, 2022

<u>WEEK</u>	<u>DATE</u>	<u>CLASS TOPIC: TEACHING FORMAT</u>	<u>SUBTOPICS</u>	<u>FACULTY</u>
Week 1	September 21	Course Introduction and Plan Nutrition Concepts & Guidelines	Dietary Reference Intakes, Dietary & Physical Activity Guidelines for Americans	John Bogden, PhD Professor <u>Course Co-Director</u>
Week 2	September 28	Minerals & Trace Minerals	The 6 essential minerals & 9 essential trace minerals	John Bogden, PhD Professor James Oleske, MD, Professor
Week 3	October 5	Vitamins	The 14 essential vitamins	Sylvia Christakos, PhD Professor <u>Course Co-Director</u>
Week 4	October 12	Macronutrients & Energy; Healthy Eating	Protein, fat, carbohydrate, obesity	Jane Ziegler, DCN, RD, LDN Associate Professor
Week 5	October 19	EXAM # 1	Exam questions on Weeks 1-4 content	
Week 6	October 26	Nutrition & Skeletal/Bone Health Nutrition History	Calcium, vitamin D, osteoporosis Discovery of Niacin Deficiency as the Cause of Pellagra	Sylvia Christakos, PhD Professor John Bogden, PhD Professor
Week 7	November 2	Nutrition, Diabetes, and Kidney Disease Prevention/Treatment:	Glucose, chronic kidney disease, hemodialysis patients, hypertension	Mya Raguwansha, MD Professor Alluru Reddi, MD Professor
Week 8	November 9	Nutrition and Cancer Prevention/Treatment	AICR & ACS guidelines Geographic cancer disparities	John Bogden, PhD Professor

Course Number and Name and Semester
MSBS 5150Q: Medical Nutrition & Disease, Fall 2022 semester

Week 9	November 16	EXAM # 2	Exam questions on Weeks 6-8 content	
Weeks 10-12	November 16-December 7	Individual students or pairs of 2 students will prepare & submit an 8-12 page single-spaced "Student Research Report".	Student-selected faculty-approved nutrition topics Student Research Reports must be submitted by December 10, 2021	John Bogden, PhD Professor Sylvia Christakos, PhD Professor

COURSE TEXTBOOKS:

L Hark, D Deen, & G Morrison: Medical Nutrition & Disease: A Case-Based Approach, Fifth Edition, Wiley Blackwell, Hoboken, NJ, 2014.

This has been a widely used textbook. It is strongly recommended that students read Chapters 1, 2, 6, 8, 10, and 11 of this book while taking the course.

ND Barnard, R Weissinger, BJ Jaster, S Kahan, & C Symth, Nutrition Guide for Clinicians, Second Edition, Physicians Committee for Responsible Medicine, Washington, DC, 2009. Copies of the book will be available in the George Smith Library.

EVALUATION METHODS & COURSE GRADING:

GRADING:

A: $\geq 90.0\%$

B+: 85.0—89.9%; B: 80.0—84.9%

C+: 75.0-79.9%; C: 70.0-74.9%

F: $< 70.0\%$

GRADING COMPONENTS:

Exam # 1 Covers Lectures/Podcasts of Weeks 1-4	30%
Exam # 2 Covers Lectures/Podcasts of Weeks 5-7	30%
Student Research Reports: See Section I below	40%
<u>TOTAL</u>	<u>100%</u>

Course Number and Name and Semester
MSBS 5150Q: Medical Nutrition & Disease, Fall 2022 semester

GUIDELINES FOR STUDENT RESEARCH REPORTS

Individual or pairs of two students will prepare and submit an 8-12 page (not including the list of references) single-spaced “Student Research Report” on a student-selected, faculty-approved nutrition topic. It is expected that students will prepare their reports after conducting a literature search using PubMed and/or Medline and reading relevant peer-reviewed publications in leading journals that are identified by their literature search. In researching their topic, students should avoid the use of unreliable websites, of which there are many. Although a student may submit an individual research report, by working in pairs some students may be able to more comprehensively review the relevant literature and potentially submit a higher quality research report. If you choose to work as a pair, you are responsible for selecting a partner. Factors that will be considered in the grading of the “Student Research Reports” will include originality and evidence of critical thinking.

Students should choose their topics and obtain approval of their chosen topic via an e-mail sent to Drs. Bogden and Christakos. We can also help you to identify a topic. A good source of ideas for topics is the recently published (December, 2020) 9th Edition of “Dietary Guidelines for Americans: 2020-2025” (see DietaryGuidelines.gov). The 118-page “Physical Activity Guidelines for Americans, 2nd edition, published in 2018, is also a good source of topics, as is the 835-page “Scientific Report of the 2020 Dietary Guidelines Advisory Committee” .

SOME USEFUL WEBSITES

There are a considerable number of websites that contain consistently reliable and valid information about nutrition. There are also many that have inaccurate, invalid, or self-serving information. Among the reliable sites are:

1. <http://www.diet.com>. This site is maintained by the American Dietetic Association, and is especially useful because of its content on a variety of topics such as weight management, eating disorders, and athletic performance.
2. <http://navigator.tufts.edu>. This Tufts University site provides ratings of other nutrition websites as “among the best”, “better than most”, “average”, or “not recommended”. It is thus useful for identifying sites to avoid and sites to use.
3. <http://www.nap.edu>. This is the website of National Academies Press, which publishes the “Dietary Reference Intakes”. Searching the site can locate and provide access to each volume of the DRIs, including those in draft form that are not yet published. However, the site is not convenient to use.

Course Number and Name and Semester
MSBS 5150Q: Medical Nutrition & Disease, Fall 2022 semester

4. <http://www.uth.tmc.edu/courses/nutrition-module/> A good education website designed to teach students about applying basic nutrition science to formulate public health policy and clinical practice guidelines; it has links to other useful websites.
 5. <http://www.usda.gov>. This is the United States Department of Agriculture (USDA) site and includes the 2020-2025 Dietary Guidelines for Americans and other useful information on food.
 6. <http://www.nhlbi.nih.gov>. This is an NIH site (National Heart, Lung, and Blood Institute) that contains information about diet and in particular the DASH diet for patients with hypertension.
 7. <http://www.aicr.org>. The American Institute for Cancer Research is a foundation that funds research on diet and cancer. The site has information on cancer prevention, and coping with diet-related and other side effects of cancer treatment, and provides sections for both patients and professionals.
 8. <http://www.nutrition.org>. This is the official site of the American Society for Nutrition, which is the major US nutrition research organization and publishes the 2 leading journals in the field (the *American Journal of Clinical Nutrition* and the *Journal of Nutrition*), as well as the journal *Advances in Nutrition*. This website contains very useful content on individual nutrients.
- .

Course Number and Name and Semester
MSBS 5150Q: Medical Nutrition & Disease, Fall 2022 semester

EDUCATION PORTAL AND CANVAS COURSE ACCESS:

The CANVAS course website is an essential part of the **Medical Nutrition & Disease** Course. CANVAS can be accessed using the Educational Portal website at <https://ep.njms.rutgers.edu> . The Education Portal provides single sign-on and “one stop shopping” site for various academic systems such as CANVAS, Education Management System, Digital Media Portal, Virtual Microscopy, SOCRATES, etc.

If the Education Portal is unavailable, direct links for CANVAS, NJMS Video, Virtual Microscopy etc., are provided below:

CANVAS: To access all course information log onto CANVAS at: <https://canvas.rutgers.edu/>

PODCAST ACCESS:

WIRELESS ACCESS FOR ELECTRONIC EXAMS (ON CAMPUS EXAMS)

RU Health Sciences is the primary wireless network for SGS however you can use either RU Health Sciences or RU Wireless Secure for electronic exams. Please make sure you can connect to both prior to an exam. See <https://ruwireless.rutgers.edu/ruwireless-secure> for more information. **DO NOT USE RU Wireless.**

Course Number and Name and Semester
MSBS 5150Q: Medical Nutrition & Disease, Fall 2022 semester

EXAMSOFT SYSTEM REQUIREMENTS:

Note: These requirements will be updated by the SGS Office of Student Affairs and Admissions. The requirements below are from the 2019-2020 Academic year:

EXAMSOFT SYSTEM REQUIREMENTS:

The following laptop requirements are necessary for the School of Graduate Studies

REQUIREMENTS	
Windows	Mac OS
<ul style="list-style-type: none"> Operating System: 32-bit and 64-bit Versions of Windows 10. Alternate versions of Windows 10 RT and 10 S are NOT supported at this time. CPU Processor: 2.0 ghz Intel i3 processor or equivalent RAM = 4 GB or higher HD (needs at least 1 GB of free space) 13' screen or larger (Laptops) Minimum screen resolution of 1024x768 is required with a 32 bit color setting Virtual machines & applications are not allowed Surface Pro is allowed (non-pro Surface devices are not allowed) Tablets are not allowed; nor Chromebooks, netbooks, etc. For on-site support, a working USB port is required (newer devices may require an adaptor) 	<ul style="list-style-type: none"> MacOS Catalina (version 10.15) is only compatible with Exemplify version 2.0.6 or higher (Released on 10/14/19 or later)Any server version of Mac OS is NOT supported 1GHz Intel processor or higher RAM = 4 GB or higher HD (needs at least 1 GB of free space) 13' screen or larger (Laptops) Minimum screen resolution of 1024x768 is required with a 32 bit color setting Virtual machines & applications are not allowed iPads/tablets are not allowed For on-site support, a working USB port is required (newer devices may require an adaptor)
<ul style="list-style-type: none"> Microsoft Edge, Internet Explorer Chrome Firefox Do not use beta versions. Other browsers are not supported. 	<ul style="list-style-type: none"> Safari Chrome Firefox Do not use beta versions. Other browsers are not supported.
Browser Settings <ul style="list-style-type: none"> - JavaScript Enabled - Cookies Enabled - CSS Enabled - Disable pop-up blockers 	Browser Settings <ul style="list-style-type: none"> - JavaScript Enabled - Cookies Enabled - CSS Enabled - Disable pop-up blockers
Must have Administrator level account permissions.	
Disable Toolbars, Adware or Spyware programs. They may adversely affect the computer's performance and cause delays in loading testing questions.	
If you are using McAfee, you need to turn off Real-Time Scanning.	
Turn off Windows updates or virus scanner updates to avoid interruptions during testing.	
***The following requirements apply for exams with ExamID or ExamMonitor enabled	

Course Number and Name and Semester
MSBS 5150Q: Medical Nutrition & Disease, Fall 2022 semester

- Exemplify version 2.3.2 or greater
- Hard Drive: 2GB or higher available space
- RAM: 8GB or higher recommended; 4GB required
- Webcam
- Microphone (no headphones!)
- Internet: 2Mbps upload speed

EXAMSOFT EXAMPLIFY LINKS:

Mac : <https://examsoft.force.com/emcommunity/s/article/Exemplify-Minimum-System-Requirements-for-Mac-OS-X>

Windows: <https://examsoft.force.com/emcommunity/s/article/Exemplify-Minimum-System-Requirements-for-Windows>

Course Number and Name and Semester
MSBS 5150Q: Medical Nutrition & Disease, Fall 2022 semester

ABSENCE FROM COURSE QUIZZES AND EXAMS:

SGS has issued a **MISSED EXAM POLICY** for students enrolled in their programs. Below are the valid excuses for missing a quiz or exam in this course (verbatim from the SGS Exam Policy):

- 1) Significant illness, with official note by doctor, which must include a valid reason for missing the exam. The doctor's note cannot result from a remote (online) diagnosis.
NOTE: Illness prior to the exam ("didn't have time to study") does not constitute a valid excuse, although exceptions can be given by the SGS Associate Dean of Student Affairs if the prior illness has been severe or lengthy.
- 2) Death in the immediate family (parents, siblings, children, grandparents, aunts/uncles, niece or nephew, sister-in-law or brother-in-law, parents-in-law, first-cousins).
Verification, with dates, is required, but this can be a newspaper announcement, event (e.g. wake) announcement, etc.
- 3) Medical/dental school interview, in which the interview or unavoidable travel overlaps with the exam. Copy of the invitation letter.
- 4) Presentation at a meeting. Proof of attendance required.
- 5) More than two final exams on the same day. (NOTE: An exam should not be rescheduled for an individual with two exams on the same day). If a student has more than two exams on the same day, they will need to contact the SGS Associate Dean of Student Affairs, who will contact the course directors about allowing the student to take one of the exams on a different day. The vast majority of schools across the country, including Rutgers New Brunswick, allow up to two final exam in the same day.
- 6) Permission of SGS Associate Dean of Students Affairs, with consultation of course-director. This will be rare, but is meant to account for valid, but unforeseen circumstances.

Each of these reasons will require some form of documentation to be submitted to verify the absence. For the full policy, please follow this link:

http://njms.rutgers.edu/sgs/current_students/docs/new/ExamPolicy.pdf

CODE OF PROFESSIONAL CONDUCT (COURSE EXAMINATIONS):

All students have a fundamental responsibility for maintaining academic integrity and intellectual honesty in their academic and professional endeavors. They are expected to observe generally accepted principles of scholarly work, to submit their own rather than another's work, to refrain from falsifying data, to acknowledge the published work of others in an appropriate manner, and to refrain from receiving or giving aid during examinations or other work requiring independent effort. When submitting written material, students take full responsibility for the originality of all work not otherwise identified by appropriate

Course Number and Name and Semester
MSBS 5150Q: Medical Nutrition & Disease, Fall 2022 semester

acknowledgments and imply that both the ideas and words used are their own. All students are expected to respect the property of faculty and other students, and not use research equipment or laboratory supplies of others without permission.

Specific examples of appropriate behavior in examinations exams are given below:

Examinations: The purpose of an examination is to assess a student's knowledge of a topic defined within a course or courses. **Unless given explicit written instructions to the contrary, a student must work without assistance on an examination.**

- **Classroom examination:** Each student will provide answers to questions as directed. Unless otherwise stated, no material (books, calculators, computers, communication devices) of any kind can be used during an examination.
- **Take-home examination:** Each student will provide answers as directed. Unless otherwise stated, research and writing must be done individually without assistance or exchange of information with others. The ability to use source material in the research of answers will be defined for each examination. But, unless stated otherwise, all source material should be cited appropriately as outlined below.

NOTE: THESE POLICIES ALSO HOLD TRUE FOR ALL EXAMS ADMINISTERED REMOTELY.

To view the full policy for the Code of Professional Conduct in the School of Graduate studies regarding examinations, research and oral presentations follow this link:

http://njms.rutgers.edu/sgs/current_students/ac_integ.php

ACADEMIC WARNING POLICY:

http://njms.rutgers.edu/sgs/documents/policys/SGS_Academic_Warning_Policy.pdf

Each program shall clearly inform students of the criteria for satisfactory academic performance. Academic standing will be reviewed each semester by the Program's Academic Standing Committee. Students who receive less than an average grade of "B" in the designated Core course(s) or have a GPA less than 3.0 will receive an academic warning notice. Students performing below satisfactory levels of proficiency as outlined by the program may also receive a written warning notice. The written warning states the problem(s), outlines those measures needed for improvement and sets a deadline for compliance. Letters informing students of an academic warning will be sent within 30 calendar days of the end of the semester. A request will be made to students receiving academic warning letters to meet with the Program Director and/or the Academic Standing Committee.

COURSE ADD/DROP POLICY:

Policy for the Addition of a Course:

Course Number and Name and Semester

MSBS 5150Q: Medical Nutrition & Disease, Fall 2022 semester

Students may add courses with the approval of the instructor (when required) and the program director. A student wishing to add a course after the general registration period has closed, must complete the “Add/Drop/Withdraw” form and have appropriate approval of the course instructor (when required) and program director prior to the start of the course. Registration will not be permitted beyond the first week of a course. Credit will not be given for courses in which the student was not registered.

Add Course Form Link:

<https://na2.docusign.net/Member/PowerFormSigning.aspx?PowerFormId=96fcae95-bc67-45fb-8da3-11300ded2e99>

Policy for Dropping a Course:

Students may drop courses with approval of the instructor (when required) and the program director. Students submitting a completed “Add/Drop/withdraw” form to the SGS Registrar’s office within 10 academic days of the start of the course will receive a full tuition refund and the course will not appear on their official transcript. The drop period of 1-10 *academic days, is distinguishable from the withdrawal period in that the drop period is without penalty. A completed and approved Add/Drop/Withdraw” form(s) must be received by the Registrar’s office within the time periods set forth above in order for a course(s) to be “dropped”.

Drop Course Form Link:

<https://na2.docusign.net/Member/PowerFormSigning.aspx?PowerFormId=c45635ca-6a1e-4936-b436-337b211b8433>

***An academic day is defined as a day that the SGS campus at which the student is enrolled is open for business.**

REASONABLE ACCOMMODATIONS AT RUTGERS SCHOOL OF GRADUATE STUDIES:

Rutgers School of Graduate Studies is committed to providing equitable access to learning opportunities to students with documented disabilities (e.g. mental health, attentional, learning, chronic health, sensory, or physical). To ensure access to this please contact Student Affairs, to engage in a confidential conversation about the process for requesting reasonable accommodations in the classroom setting. Students are encouraged to register with the Office of Student Affairs as soon as they begin their program. Accommodations are not provided retroactively. Rutgers School of Graduate Studies encourages students to access all resources available through the School for consistent support and access to their program.

More information can be found online at

Course Number and Name and Semester
MSBS 5150Q: Medical Nutrition & Disease, Fall 2022 semester

http://njms.rutgers.edu/education/student_affairs/student_support/disability_services.cfm.

Rutgers University welcomes students with disabilities into all of the University's educational programs. In order to receive consideration for reasonable accommodations, a student with a disability must complete the ODS registration form: <https://webapps.rutgers.edu/student-ods/forms/registration> and contact the RBHS Office of Disability Services at 973-972-5396 or cindy.poorepariseau@rutgers.edu to make an appointment for an intake interview. You will also be asked to provide documentation of your disability:

<https://ods.rutgers.edu/students/documentation-guidelines>.

If the documentation supports your request for reasonable accommodations, the Office of Disability Services will provide you with a Letter of Accommodations. This Letter will be used to notify appropriate school personnel about the accommodations you are qualified to receive. To begin this process, please complete the Registration form on the ODS web site at: <https://webapps.rutgers.edu/student-ods/forms/registration>.

TEACHER-LEARNER POLICY RUTGERS SCHOOL OF GRADUATE STUDIES:

The Rutgers SGS Newark Health Science Campus strongly believes that teaching and learning should take place in a climate of mutual respect where students and faculty are equally responsible for maintaining a professional and collegial environment. An environment where students are evaluated based upon accomplishment, professionalism and academic performance. We are committed to maintaining a positive learning environment and the highest standards of behavior in the teacher-student relationship.

To view the full Teacher-Learner policy for the School of Graduate studies, please follow this link: https://njms.rutgers.edu/sgs/current_students/docs/Teacher%20Learner%20Policy.pdf