

Diet, Nutrition and Disease Prevention in Pharmacy Practice

Spring 2016 (30:158:402)

Tuesday, 1:00 – 3:00 p.m.; Thursday, 1:20 – 2:20 p.m.; Pharmacy Building, Rm 007

Instructor: Professor Chung S. Yang (848-445-5360; csyang@pharmacy.rutgers.edu)
Teaching Assistant: Mr. Paul Shan (nainglinshan@gmail.com)
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Guest Instructors: Professor Sue Shapses (732-932-9403; shapses@aesop.rutgers.edu)
Dr. Bonnie Qin (732-235-9439; bq25@cinj.rutgers.edu)

Introduction and Objectives

Nutrition and health is a topic of great public interest. Much new knowledge has been obtained in recent years; however, there is also a great deal of misinformation and faddism. A pharmacist is faced with all types of questions on this topic. It is important that a pharmacist is educated in this area and is able to analyze the issues critically and disseminate correct information to the public.

The objective of this course is to provide future pharmacists with a sound scientific background for dealing with the important subject of diet, nutrition, and disease prevention.

Description of the Course

The course will give a systematic and thorough discussion on important topics on diet and nutrition as well as their relationship to health and diseases. Basic biochemical mechanisms will be emphasized in a critical analysis of the molecular basis of disease prevention by dietary means. Faddism and quackery will also be discussed.

Lectures will be posted on sakai@rutgers.edu before the classes. It is important that students print and review the lectures to be better prepared for the classes. Most of the information in the handouts are from the following books. The iClicker brand personal response system will be required for this class and the responses will count towards your class participation grade.

Reference

1. "Present Knowledge in Nutrition" Erdman *et al.* eds. 10th ed., Wiley <http://www.wiley.com>, 2012.
2. "Modern Nutrition in Health and Disease," 11th ed., by A.C. Ross *et al.*, Williams & Wilkins, Baltimore, 2014.
3. Food & Nutrition Information Center webpage: fnic.nal.usda.gov: Choose "Dietary Guidance" (the first option under "Browse by Subject"); Click "Dietary Reference Intakes" for more information. Access DRI Tables and Reports

Grading

There will be a midterm examination and an open book final examination, each accounting for 35% of the grade, respectively. Class participation accounts for 30%. Students also have the option to make a class presentation or write a term paper, which will enrich the learning process and contribute to the class participation grade. Letter grades will be assigned according to the Rutgers University scale:

A, 100–90 (including an "A" level class presentation or term paper); B⁺ 89–83; B 82–76; C+ 75–70; D 69–60;
F < 60

Course Evaluation

An evaluation form will be given to students at the final class meeting to obtain students' class evaluations and suggestions.

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Schedule

	Topic	Instructor
01/19/16 (Tues)	Overview on diet and disease prevention; Basic concepts in nutrition; DRI; and class exercise	C.S. Yang
01/21/16 (Thurs)	Energy metabolism, obesity and weight management I	C.S. Yang
01/26/16 (Tues)	Energy metabolism, obesity and weight management II; student presentations	C.S. Yang
01/28/16 (Thurs)	Functions of nutrients, dietary intake, and related problems: I. Macronutrients & fat-soluble vitamins; student presentations	C. S. Yang
02/02/16 (Tues)	II. Water-soluble vitamins & trace elements	C.S. Yang
02/04/16 (Thurs)	Nutritional epidemiology	Bonnie Qin
02/09/16 (Tues)	Antioxidants: mechanisms of action and misconceptions; student presentations	C. S. Yang
02/11/16 (Thurs)	Dietary fiber, intestinal microbiota and health	C.S. Yang
02/16/16 (Tues)	Dietary prevention and management of diabetes; student presentations	C.S. Yang
02/18/16 (Thurs)	Dietary supplements and diet-drug interactions	C.S. Yang
02/23/16 (Tues)	Midterm examination	
02/25/16 (Thurs)	Diet and cancer prevention I; student presentations	C.S. Yang
03/01/16 (Tues)	Diet and cancer prevention II	C.S. Yang
03/03/16 (Thurs)	Open lecture; student presentations	C.S. Yang
03/08/16 (Tues)	Calcium & vitamin D nutrition, osteoporosis and other diseases; student presentations	S. Shapses
03/10/16 (Thurs)	Food safety and toxicology; student presentations	Jayson Chen
03/12/16-03/20/16	(Spring Recess)	
03/22/16 (Tues)	Dietary factors in cardiovascular diseases; student presentations	C.S. Yang
03/24/16 (Thurs)	Open lecture; student presentations; drafts of term papers due	C.S. Yang
03/29/16 (Tues)	Nutrition and healthy aging; student presentations	C.S. Yang
03/31/16 (Thurs)	Student presentations; general discussions	C.S. Yang
04/05/16 (Tues)	Final examination ; course evaluation	C.S. Yang
04/14/16 (Thurs)	Term paper due	

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Examples of topics for student presentations and term papers

1. How much information on diet and nutrition is needed in pharmacy practice?
2. The most commonly asked question(s) on nutrition in a community pharmacy
3. Micronutrients in health and disease prevention
4. The marketing of dietary supplements in a community pharmacy
5. Effective means of weight reduction
6. Commercial dieting products and programs - cost and effective analysis
7. Diet, nutrients and heart disease or other diseases
8. Dietary approaches in the prevention and management of diabetes
9. Food safety; organic food
10. Needs for nutritional supplements for senior citizens or patient groups
11. Diet, nutrients and cancer prevention
12. Exercise, nutrition and health

Recommended References:

1. References and books
2. Journals: New England Journal of Medicine, Journal of the American Medical Association, Lancet, American Journal of Epidemiology, American Journal of Clinical Nutrition, Journal of Nutrition, Cancer Research, Journal of American Cancer Institute.
3. Recommended Websites: Food & Nutrition Information Center webpage: *fnic.nal.usda.gov*

Other Websites (also contain mis-information; never use them as the major source of your information).

www.nutritionhealthreports.com

www.ultranet.com

Online Nutritional Supplement information/ordering form (not clinically founded with FDA)

www.planetrx.com

www.drugstore.com

www.gnc.com

Suggestions for Writing the Term Paper

Literature Search and Other Preparations

1. Select a topic which is interesting and worth writing on.
2. Obtain background information on the topic by reviewing the literature as follows:
 - a. Do a **computer literature search for publication in the past 5 years**. This service is available for free in the library. Follow the instructions by the computers or you can ask the librarian for assistance. Select key words that are specific for your topic.
 - b. Use **up-to-date reviews in journals and textbooks**.
 - c. Get additional information by reading references cited in the review papers and books.
3. Organize your thoughts by preparing an outline; you may discuss this outline with the teaching staff.

Writing and Format

1. Title Page: Place the title of the paper, your name, date, Dr. Yang's name and the course name on the first page.
2. Introduction: Write a short introduction which includes the relevance and importance of the topic and why you chose the topic.
3. Body of the paper: Subheadings are usually helpful. Thoughtful discussions and suggestions for future research directions are essential for a good paper.
4. Summary: Summarize the major points of the paper.
5. Suggested length of the paper: approximately 7–12 pages containing 7–20 references.
6. After the paper is written, carefully edit the paper. It usually takes several drafts before a good paper is submitted.
7. Reference style: Follow the styles of the New England Journal of Medicine or other leading journals
8. References and abbreviations: Every fact must be attributed to a reference. The reference(s) are cited by placing a number in parentheses immediately after the fact is mentioned. The corresponding reference is then listed by number on a separate reference page. To use abbreviations, put the abbreviation in parentheses after writing out the whole word or phrase the first time mentioned. After that, use the abbreviation only.

Example: Barrett's esophagus (BE), a condition characterized by a metaplastic change of squamous epithelium to columnar epithelium in the distal esophagus, was first described by Norman Barrett in 1950 (27).
9. Tables and Figures: Tables and figures from references can be used. Enlarge when photocopying and insert at the end of the paper. Be sure to cite the reference that the table or figure came from. Give the table or figure a number and in the body of the paper refer to the table or figure by the number.
10. Plagiarism: **Do not** copy from any place. References should be used to get facts and information and should be paraphrased in your own words. Any information that is copied directly must be placed in quotation marks.

Academic Integrity Policy Statement (for syllabus)

Students are required to be familiar with the university's Policy on Academic Integrity (see <http://ctaar.rutgers.edu/integrity/policy.html>). Violation of academic integrity is a separable offense under the University Code of Student Conduct. Violations of academic integrity occurring during exams will be either level three or four violations. The recommended sanction for level three violations is suspension from the university for one or more terms with a notation of "academic disciplinary suspension" placed on the student's transcript for the period of suspension and a failing grade in the course. The recommended sanction for level four violations is expulsion from the university and a permanent notation on the student's transcript. Any student who is aware of academic misconduct by another student is obligated to notify a faculty member; failure to do so is also a violation of the Policy on Academic Integrity. Any violations of academic integrity relating to this course will be handled by the student disciplinary process as outlined in the University Code of Student Conduct.

Examination Policy (for syllabus)

- Any absence from an exam must be approved by the course coordinator either verbally or in writing prior to the exam time and must be for a valid, documented reason. Leaving a phone message or e-mail, without a response from the course coordinator, does not constitute approval for the absence. Make-up examinations may consist of different questions, using a different question format.
- Students are expected to arrive on time for examinations. Students will not be allowed admittance to an exam after any other student has completed the exam and left the exam room. This will be considered an unexcused absence.
- Students must leave coats, book bags, and other belongings at the front or back of the examination room. The only items allowed on the desk are those that are essential to completion of the exam. Other than the examination itself, papers of any kind are not allowed on the desk.
- Students must be prepared to present picture identification (e.g. driver's license, Rutgers student ID) if requested by the exam proctors.
- A student may be moved to a different seat at any time during the exam at the discretion of the proctors.
- Students who want to keep track of the time during an exam should wear a watch. Exam proctors will also provide periodic updates on the time remaining. Cellular phones and personal digital assistants (PDAs) are not acceptable timepieces and will not be allowed on the desk.
- Programmable calculators or PDAs may not be used during an exam. The exam proctors reserve the right to inspect and remove any calculator that they feel may give a student an unfair advantage.
- Students wearing baseball caps or similar hats with lids must turn the hat around so that the lid does not cover the eyes.
- For multiple-choice questions, students must not write their answers in big block letters in the margin of the exam.
- Students must refrain from talking from the time they enter the examination room until they have left the room AND are out of hearing range. Talking about the exam outside of the room is unacceptable at any time

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_____ (Student's name) would like to make a class presentation on _____
(select appropriate date based on the lecture schedule) on the topic of _____

- Please return to Dr. Yang as soon as possible. Students will be selected on a first come, first serve basis.

or

Write a term paper on the topic of _____

with key ideas or outlines as follows:

- Please return to Dr. Yang as early as possible but no later than March 4th.