

SEMESTER AT SEA COURSE SYLLABUS

Voyage: Fall 2014

Discipline: Biology

BIOL 1559-102: Nutrition Around the World

Division: Lower

Faculty Name: B. Jeanette Lancaster, PhD, RN, FAAN

Pre-requisites: None.

COURSE DESCRIPTION

Study of the science of human nutrition provides a relevant and fascinating way to familiarize students with fundamental biological, public health and cultural principles related to food that will be useful to them in their daily lives. Examining nutrition around the world allows a glimpse into the various roles that food plays in our health, welfare, culture, and social interactions. Topics to be included are: The human body and the different kinds of nutrients required by humans; the metabolic processes that transform food into energy and the chemical building blocks for the creation and renewal of cellular structures; and the basic scientific principles of energy balance that determine weight gain or weight loss, as governed by diet and exercise. The course will also examine the ways in which food is produced, prepared and distributed; and the politics and policies in selected countries that affect food production and consumption. Students will be able to examine the public health implications of local solutions to meeting nutritional needs, the cultural, religious and gender influences on food choices, food sufficiency, and the relationship between proper nutrition and health maintenance. As we visit three continents, we will sample the food and participate in the food culture of the countries we visit.

COURSE OBJECTIVES

1. Examine the science of nutrition from both the biological and public health influences.
2. Identify the multiple and complex relationships among food, gender, culture, religion, and economics.
3. Describe how food is produced, prepared, and distributed and how these factors influence health.
4. Discuss how politics and policies within a country or region affect health in relation to nutrition.
5. Use “My Plate” and learn how to identify how to adequately fill a plate in a variety of the countries visited during the voyage.

Nutrition around the World

Textbook

Sizer, F., and Whitney, E., Nutrition: Concepts and Controversies. 13th ed., 2013.
Cengage/Wadsworth publishers.

ISBN: 978-11-336-03184

Cost: \$150.00

Syllabus

Lecture*

Day 1: Introduction; Review of syllabus and plan for the course

Day 2: Food Choices, Dietary Reference Intakes; Diet Planning Guides: Food labels

Day 3 and Day 4: Understanding nutrients: digestion, absorption and transport of carbohydrates, fats (lipids) and proteins

Day 5: Quiz 1 - 50 points

Day 6: Metabolism: Chemical Reactions in the Body

Day 7: Energy from Carbohydrates & Fats

Day 8: Energy from Proteins: Protein Metabolism

Day 9: Alcohol & Nutrition; Energy Balance

Day 10: Quiz 2 - 50 points

Day 11: Energy In, Energy Out, Body Weight; Weight Management

Day 12: Obesity and its Causes; Underweight and Anorexia

Day 13: Vitamins; Water and supplements

Day 14: Major Minerals and Trace Elements

Day 15: Fitness; Energy Systems of Physical Activity

Day 16: Quiz 3 – 50 points

Day 17: Diet and Health: Cardiovascular Diseases and Cancer

Day 18: Diet and Health: Diabetes; Nutrition Support in Wasting Diseases

Day 19: Global and Community aspects of nutrition and undernutrition

Day 20: Consumer Concerns: Food-Borne Illnesses, Food biotechnology

Day 21: Food insecurity and hunger in developing nations

Day 22: Global public health nutrition in a changing world

Day 23 Final Exam - 50 points

*As we travel, we will incorporate relevant aspects of the foods and nutrition habits found in the various countries we visit.

Field Laboratory

The field lab will be held in Accra on Day one. The group will visit a local market; eat at a local restaurant that serves traditional foods and visit a fishing village. If possible, the students will be able to meet with a faculty member in the School of Public Health at the University of Ghana.

You will survey a food market. The goal of the survey will be to understand how the common nutritional needs (energy from carbohydrate, fat and/or protein, minerals, vitamins) are met by people shopping at the market through the purchases they might make. Students will be expected to note the items available, how these items contribute to nutrition (or not), how much they cost, and how satisfaction of nutritional requirements can be achieved by making informed choices.

Eat at a local restaurant that serves traditional foods. Using the MyPlate system, describe how you can nutritionally fill the plate and what the cost might be if you had purchased the food at the market.

Visit a local visiting village and observe how the residents prepare their food; what food choices are available to them and how their food options would fill MyPlate.

Discuss the nutritional field lab experience either at the end of the day on the ship or in the next class session. Timing will depend on distances from one venue to another and traffic conditions.

The purpose of the field laboratory experience is to train students to think about strategies for meeting their nutritional needs through sound nutritional practices. As we travel, students will be required to survey the local food, including personal tours of local food markets in four of the countries we visit: Russia, Portugal,, Ghana and Argentina. For each of these ports, students are given a hypothetical budget to plan a meal for a family of four; the budget is set to be appropriate to the median per capita income in the country. On the first day of class after each port, the students respond in class to a 10-question survey of their budget results.

Evaluation

Quizzes: 3, each worth 50 points

Final examination: 50 points

Field Laboratory: 50 points

TOTAL: 250 points

Each quiz and the final exam will be 50 multiple-choice questions.

The field laboratory portion of the course will be evaluated based on the 1,000-word Nutritional Culture and Experience paper written by the student.

HONOR CODE

Semester at Sea students enroll in an academic program administered by the University of Virginia, and thus bind themselves to the University's honor code. The code prohibits all acts of lying, cheating, and stealing. Please consult the Voyager's Handbook for further explanation of what constitutes an honor offense.

Each written assignment for this course must be pledged by the student as follows: "On my honor as a student, I pledge that I have neither given nor received aid on this assignment." The pledge must be signed, or, in the case of an electronic file, signed "[signed]."