

University of Puerto Rico  
Río Piedras Campus  
Nutrition and Dietetics Program  
Natural Sciences Faculty

**Course Title:** Human Nutrition I

**Course Code:** NUTR 4041

**Professor:** Dr. Celia Mir RDN, LND, CFCS, CWCM, CGIMg, DEPR, REPR, CCMg, CPhA

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**Credits / Hours:** Three credits. Four hours of discussion.

**Prerequisites:** BIOL 3711- 3712, CHEM 3001; Access to a Computer with Internet, and e-mail address.

**Course Description:** Considers fundamental knowledge of the science of nutrition, including nutrients found in food, and their function in the human body. Special emphasis is given on the study of factors necessary to select and plan a healthy diet for individuals and groups.

**Course Objectives or Summary of Expected Outcomes:**

By the end of the course, the students should be able to:

1. Integrate knowledge of biological, chemical, biochemical, and social sciences to the comprehensive concept of human nutrition.
2. Identify the basic needs of cells and describe the digestive processes: absorption, transportation, and storage of nutrients.
3. Describe the roles and characteristics of nutrients in the body.
4. Pinpoint the functions and interactions of the nutrients in the human body.
5. Discuss the ways that nutrition affects health and list several personal life choices that affect health. Evaluate their own food pattern.
6. Explain the foundations and describe the Dietary Guidelines and Food Guide Pyramid.
7. Define Recommended Dietary Allowances and Dietary Reference Intakes.
8. Explain the expression of cultural traditions and social values through food choices.
9. Analyze different factors responsible for malnutrition and those that affect the food patterns related to special needs, as well as those related to diet modifications depending on the specific stage in life span or illness.

10. Explain the principal nutritional problems in Puerto Rico, United States, and around the World.
11. Use the Food Composition Tables, computer programs, technological devices and others that will help them as future professionals to analyze food patterns.
12. Identify the nutrients associated to deficiencies, excesses, and toxicities.
13. Calculate energy needs for adults. Estimate his or her individual total energy expenditure.
14. Describe how the Exchange System facilitates calorie control.
15. Discuss the importance of serving sizes and portions in nutrition.
16. Identify the best and most efficient food sources.
17. Identify the types of people who may benefit from supplements.
18. Compare the arguments for and against the complementary medicine.
19. Summarize the theories that attempt to explain overweight and obesity.
20. Explain the benefits of and guidelines for regular physical activity.
21. Apply their knowledge in nutrition to the promotion and prevention of good health.
22. Demonstrate use of Internet and software available related to Public Health.
23. Contribute, effectively, to the inclusion of fellow disabled students in class activities.

**Foundation Knowledge Requirements and Learning Outcomes:**

Students are able to:

- 1.1 Demonstrate how to locate, interpret, evaluate and use professional literature to make ethical evidence-based practice decisions.
- 1.3 Apply critical thinking skills.
- 2.1 Demonstrate effective and professional oral and written communication and documentation.

**Course Content**

<b>Unit Topic</b>	<b>Time allowed in Hours (mean)</b>
Introduction	4
Why do we eat the way we do?	
Eat to live or live to eat?	
Food Preferences, Sensory influences	
Cognitive influences, Cultural influences	
Health Status, Genetics, etc.	
The Human Body and its Food	
The Nutrients in Foods	
Functions, Food Choices	
Scientific Research, etc.	
Nutritional Guidelines	4
Linking Nutrients, Foods, and Health	

Moderation, Variety and Balance	
Dietary Guidelines USDA	
Food Guide Pyramid vs MyPlate, RDA, DRI	
Food Labels, Health Claims	
Dietary Reference Intakes, etc.	
Digestion	2
The Gastrointestinal Tract	
Systems and Assisting Organs	
Digestive Process, Absorption	
Transportation, Storage, etc.	
TEST	1
Carbohydrates	5
What are the CHO?	
Sugars, Starch, Glycogen, Fiber	
Sources, Digestion and Absorption	
Metabolism, Deficiencies, Excesses	
Lipids	5
What are lipids?	
Fats, Oils, Phospholipids, Sterols	
Sources, Digestion and Absorption	
Metabolism, Deficiencies, Excesses	
Proteins	5
Why protein is important?	
Structure, Amino Acids	
Sources, Digestion and Absorption	
Metabolism, Deficiencies, Excesses	
TEST	1
Energy Balance and Health Body Weight	5
Body Fat and Kilocalories	
Overweight and Obesity	
Underweight	
BMI, Exchange System	
Calculations	
Physical Activity	
TEST	1
Vitamins: Definition and Classification	5
Fat-Soluble Vitamins 5	
Functions, Recommendations	
Sources, Deficiencies, Excesses, Toxicity	
Water-Soluble Vitamins 5	
Functions, Recommendations	

Sources, Deficiencies, Excesses, Toxicity	
TEST	1
Water and Minerals	5
Body's Water Balance	
Major minerals, Trace minerals	
Ultra trace minerals	
Functions, Recommendations	
Sources, Deficiencies, Excesses, Toxicity	
TEST	1

### Instructional Strategies or Teaching/Learning Methods:

Discussion, Conference, Students' Oral Presentations, Case Discussions, Field Projects, Group and individual assignments, Group and individual projects, Life cycle food behaviors tasks, Food nutrients and composition analysis, etc.

Alternative methods in a no presencal scenario: videos, computer assisted search, computer assisted learning, internet connections, modules, virtual forums, chats, special tasks, diverse tasks, visits to food and nutrition programs, watch and observe professional in their field, etc. If necessary tests could be changed by projects or tasks on line. The UPR Certification Num 112 (2014-2015) is applied in this course - with 75% of face to face learning experiences and if necessary the additional 25% could be no presencal.

### Learning Resources:

Speakers, Access and skills to use a Computer with Internet connection (Word, Excel, Power Point and other, e-mail address, UPR email available (upr.edu), Calculator, Professional Journals, Books, Computer Lab, Moodle account, Food groups - energy and nutrients composition, computer applications, determination of deficiencies and excesses of nutrients, etc.

### Mission of the Didactic Program in Nutrition and Dietetics:

The mission of the Didactic Program in Dietetics is to provide the academic preparation necessary to form nutritionists-dietitians qualified to offer educational, administrative, and clinical services in medical nutrition therapy and in the management of food services systems. The Program provides professionals with the tools necessary to work in different scenarios within an ever-changing and culturally diverse society. The integration of knowledge and skills specialized in foods and nutrition will permit the graduates to promote the general welfare of the individual, the family and the community, helping them to obtain optimal nutrition, whether in health or in sickness, throughout their life span, in our diverse ever-changing society.

### Course Evaluation:

5 TESTS

**Mandatory Points**  
500 points (50%)

Individual Assessment	100 points (10%)
1 Portfolio	100 points (10%)
1 – 5 oral reports	up to 50 points (20%)
Assignments and Field Activities	<u>up to 50 points (10%)</u>
<b>Total Points</b>	<b>800 points (100%)</b>

### Grading System:

Final grade will be calculated using the regular grading system and a standard curve as follows:

100 - 90	= A
89 - 80	= B
79 - 70	= C
69 - 60	= D
< 59	= F

### Attendance, Punctuality, and Responsibilities:

In addition to 800 points to obtain an "A" Grade:

- This course is experiential; therefore no more than one justified absence will be permitted. The final grade could be reduced 100 points in case of unjustified absences or continuous delays. Three late arrivals to class equal one absence.
- All submitted assignments or projects must meet acceptable standards expected of college students.
- Due dates are deadlines. One late assignments, project, or activity could drop the final grade one letter.
- No make-up exams, except those students who present a medical excuse, in which case arrangements will be made. You must communicate with the professor on or prior to the exam date. In case of an unjustified test replacement or incomplete removal no "A" grade is possible.
- Any student involved in violation of professional ethics or academic integrity in the completion assignment will receive a score of zero (0). This includes but is not limited to plagiarism of texts, journals, web pages, another student's work, attendance sheet, quizzes and exams.
- Mobile phones and other electronic devices are not permitted in the classroom for personal use. You can use them if the professor ask you to do it.
- All communication through email should include a brief greeting, message, student name, student number, course and section. The professor will reply according to schedule and priority. Emails are not to ask for grades; that information is going to be provided personally.

### Integrity:

The University of Puerto Rico promotes the highest standards of academic and scientific integrity. Article 6.2 of the UPR General Student Handbook establishes that all forms of dishonesty or lack of academic integrity include but are not limited to fraudulent

actions, obtaining scores or grades by means of fraudulent simulations, partially or completely copying the academic work of others, partially or completely plagiarizing the work of others, partially or completely replicating answers during an examination, completing a written or verbal examination for another student or under another student's identity, as well as aiding or facilitating another in any of the aforementioned conducts. Correspondingly, fraudulent conduct refers to any behavior performed with the intention of committing fraudulent acts, including but not limited to, the alteration or falsification of scores and grades, records, identification cards or other official documents provided by UPR or any other institution. All conduct relating to cognizant attempts to circulate any aforementioned falsified or altered documents as being genuine and true will be subject to disciplinary sanctions. Any of these actions will be subject to disciplinary measures, as per the disciplinary procedure established in the UPR General Student Handbook.

#### Student Information Regarding Law 51:

This course contributes, in an effective way, to the successful inclusion of students with disabilities in a classroom. Students who receive Vocational Rehabilitation should communicate with the professor at the beginning of the semester in order to plan for reasonable accommodation and/or acquisition of necessary special equipment, according to the recommendations of the Office for Persons with Disabilities and the Dean of Student Affairs.

#### Bibliography

**Text:** Whitney E and SR Rolfes. (2018). Understanding Nutrition. 15 ed. CT: Cengage Learning. Boston, MA. ISBN – 13-978-285 87434

Additional Text:Sizer FS and E Whitney. (2016). Nutrition, Concepts and Controversies. 14 ed. Cengage Learning. Boston, MA. ISBN –13-978-130562

The following internet sites provide information for this course:

[www.healthfinder.gov](http://www.healthfinder.gov) - US Government Health information. Nutrition and Life Cycle- related topics.

[www.nutrition.gov](http://www.nutrition.gov) – Information on gov-sponsored food and nutrition programs, etc.

[www.nal.usda.gov/fnic](http://www.nal.usda.gov/fnic) - Materials

[www.ncrhi.org](http://www.ncrhi.org) - National Council for Reliable Health

[www.eatright.org](http://www.eatright.org) - Academy of Nutrition and Dietetics. Site with position papers.

[www.sne.org](http://www.sne.org) - Society for Nutrition Education.

[www.napedu/readingroom](http://www.napedu/readingroom) - Review the Dietary Reference Intakes.

<http://health.gov/dietaryguidelines/2015/> - Dietary Guidelines for Americans

[www.myplate.gov](http://www.myplate.gov) - US Department of Agriculture

[www.hhs.gov](http://www.hhs.gov) – US Department of Health and Human Services

[www.navigator.tufts.edu](http://www.navigator.tufts.edu) - Reliable nutrition information.

[www.nal.usda.gov/fnic/foodcomp](http://www.nal.usda.gov/fnic/foodcomp) - Database for free food analysis.

[www.ag.uiuc.edu/~food-lab/nat](http://www.ag.uiuc.edu/~food-lab/nat) - A free diet analysis program developed at the University of Illinois- Urbana Champaign.

[www.cfsan.fda.gov/label.html](http://www.cfsan.fda.gov/label.html) - Useful facts about food labels; updates on label health claims.

[www.nlm.nih.gov](http://www.nlm.nih.gov) - Free access to National Library of Medicine's Medline for information searches on a variety of health-related topics.

[www.caloriecontrol.org](http://www.caloriecontrol.org) - The Calorie Control Council provides healthy recipes, calorie counter, BMI and calories expended during various exercises.

#### Other Mandatory References:

Torres, L. (2002) Estrategias de investigación para la inclusión. Facultad de Educación

[www.uprrp.edu/registrador/suplemento\\_5.pdf](http://www.uprrp.edu/registrador/suplemento_5.pdf)

Torres, L. (2002). Asistencia Tecnológica derecho de todos. Facultad de Educación

[www.uprrp.edu/registrador/suplemento\\_5.pdf](http://www.uprrp.edu/registrador/suplemento_5.pdf)

Reviewed in: March, 2018

Classroom assigned – 105

Classrooms 205, 207, 209 and my office 208B and 206 (substitute)– this is the second semester that are close down – sick and contaminated building with fiberglass in the ac system.