**HUN4445**
**Nutrition and Disease – Part 1**
**Fall 2025**
**Class # 13098**
**Section OLND**

**Instructor**

Laura Acosta, DCN, RDN, LD/N
Campus Office: Building 120, Room 104D
Campus Phone: 352-273-3472
**Email (preferred contact method): ljacosta@ufl.edu**
**Please use my UFL email (not Canvas email)**
Office Hours:

- 3:00-4:30pm on Wednesdays by appointment (email for appointment time). All office hours will be held on Zoom, unless otherwise arranged. See Canvas for Zoom link.

**Teaching Assistant**

Shaneice Urbina
shaneice.urbina@ufl.edu

**Course Location & Meeting Times**

This is an online, synchronous course. We will meet on Zoom on Tuesdays 1:55-2:45pm (7th and 8th periods) and Wednesdays 1:55-2:45pm (7th period).
Zoom classroom link on Canvas.

**Recording Policies**

Note that our class sessions may be audio visually recorded for students in the class to refer back and for enrolled students who are unable to attend live. Students who participate with their camera engaged or utilize a profile image are agreeing to have their video or image recorded. Likewise, students who un-mute during class and participate orally are agreeing to have their voices recorded. If you are not willing to consent to have your voice recorded during class, you will need to keep your mute button activated and communicate exclusively using the "chat" feature, which allows students to type questions and comments live.

**Course Description**

Part one of a two-semester sequence that focuses on assessing the nutritional status of individuals and on the biochemical and pathophysiological bases of diseases and conditions that require specialized nutrition support or medical nutrition therapy.
Prerequisites: HUN2201 and (CHM2211 or CHM2200)
Corequisites: (BCH3025 or BCH4024) and (APK2015C or PCB4723C)
**Credits: 3**

**Required Materials**

- Computer with reliable internet access
- Webcam and microphone
- Access to e-Learning (Canvas): https://elearning.ufl.edu/

- Access to Zoom: https://ufl.zoom.us
- Google Chrome browser with the HonorLock extension for quizzes and exams
    - Chrome can be downloaded here: https://www.google.com/chrome
    - The HonorLock Extension can be downloaded here: https://static.honorlock.com/install/extension
- Access to MS Word, MS PowerPoint, and PDF reader software

**Course Objectives**

Upon completion of this course, students should be able to:

1. Describe how to conduct a comprehensive nutrition assessment
2. Describe the etiology, symptoms, clinical findings and pathophysiology associated with diseases and conditions covered in this course.
3. Describe the nutritional management of the diseases and conditions covered in this course.
4. Identify key structures within and related to the gastrointestinal anatomy.
5. Integrate knowledge of digestive and absorptive physiology to evaluate the appropriateness of nutrition support interventions for various patients.
6. Integrate foundational knowledge of big data analysis, including the use of high-power computing and artificial intelligence, to describe how reference ranges for nutritionally-relevant laboratory values are determined.
7. Differentiate between enteral and parenteral nutrition; identify appropriate situations for using these feeding modalities; calculate the energy, protein and fluid content of formulas; and make appropriate recommendations with regard to initiation and monitoring of enteral and parenteral solutions.
8. Evaluate the impact of food/nutrient-drug interactions on nutritional status and drug efficacy and recommend appropriate intervention strategies.
9. Describe research designs used in nutrition research and discuss their strengths and limitations and the features that increase confidence that results are valid.

**Recommended Text**

- Nelms M, Roberts K. (2026). Nutrition Therapy and Pathophysiology, 5th Edition. Cengage. ISBN: 9780357973820
  **OR**
- Nelms M, Sucher K. (2020). Nutrition Therapy and Pathophysiology, 4th Edition. Cengage. ISBN-13: 978-0357041710

**Readings**

While there is no required text for the course, required readings from the scholarly literature will be posted on Canvas for each unit. Readings will primarily come from the following journals:
*Journal of Parenteral and Enteral Nutrition*
*Nutrition in Clinical Practice*
*Journal of the Academy of Nutrition and Dietetics*
*European Journal of Clinical Nutrition*
*Clinical Nutrition*
*Practical Gastroenterology*

**Course Format**

We will use a "flipped classroom" model in this course. The general pattern will be:

- Wednesday: Lecture to introduce new concepts and set the stage for the week.
- Thursday through the following Monday: Online content to review independently (this may consist of videos, readings, etc.)
- Tuesday: Discuss and synthesize concepts; wrap up the topic.

**Student Evaluation**

Final grades will be based on attendance, in-class activities, weekly online quizzes, three unit projects, and three unit exams.

**Attendance:** Attendance is required for this course. As this is an online course, "attendance" means logging onto our Zoom classroom with your camera on, and remaining attentive and engaged throughout the class period. You should not be working at a job, driving, "multitasking," etc. If you must keep your camera off for some reason, communicate with the course TA about this ahead of time (with cc to Dr. Acosta). **We understand that life happens, and each student is allowed 3 "no questions asked" absences that will not count against your grade**. After that, beginning with the fourth absence, there will be a **2 point** deduction for each absence. If there are extenuating circumstances that result in you missing class more than 3 times during the semester, please use the Instructor Notification process through the Dean of Students Office. Absences documented in this manner will be considered excused, and you will be eligible to make up any work missed as a result.

**In-Class Activities:** During certain class periods, we will complete active learning activities related to the course material for that week. These activities will be graded, and will count toward your point total for the course.

**Quizzes**: Quizzes are open-book, open-note. They are intended to provide accountability to stay on top of the course material and engage with it on a regular basis to reinforce key concepts. Quizzes will be given in Canvas. They will open on Fridays, and close on Wednesdays (the following week) at 11:59pm.

**Unit 1 Project - Data Analysis Project**: This is an individual project. It is due on the date indicated on the syllabus. Late submissions will be penalized 10% for each day late.

**Unit 2 Project – Nutrition Support Case Study** (Interprofessional Care for a Patient Requiring Enteral and Parenteral Nutrition): This project includes both group and individual components. It is due on the date indicated on the syllabus. Late submissions will be penalized 10% for each day late.

**Unit 3 Project – Evidence-Based Practice Project**: This is an individual project. It is due on the date indicated on the syllabus. Late submissions will be penalized 10% for each day late.

**Exams**: Exams will be given on Canvas, using HonorLock. In the weeks that we have exams, they will open on Fridays, and must be completed by the following Monday at 11:59pm. Exams are designed to take 60-75 minutes. However, everyone will be given double time (150 minutes) for exams. Failure to take an exam will result in a score of 0.

**While there may be opportunities for a few "bonus points" during the semester, extra credit projects will not be available**.

**Performance Indicators**

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|---|---|
| Attendance | 25 |
| In-class Activities | 50 |
| 10 Weekly Quizzes (15 points each, lowest score dropped) | 135 |
| Unit 1 Project: Data Analysis Project | 20 |
| Unit 2 Project: Nutrition Support Case Study | 40 |
| Unit 3 Project: Evidence-Based Practice Project | 30 |
| Exams 1, 2 & 3 @ 200 points each | 600 |
| Total | 900 |

**Grades are not negotiable and will be assigned according to the following scale:**

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| 837-900 | 93.0-100.0% | A | 603-629 | 67.0-69.9% | D+ |
| 810-836 | 90.0-92.9% | A- | 567-602 | 63.0-66.9% | D |
| 783-809 | 87.0-89.9% | B+ | 540-566 | 60.0-62.9% | D- |
| 747-782 | 83.0-86.9% | B | <540 | <60% | E |
| 720-746 | 80.0-82.9% | B- | | | |
| 693-719 | 77.0-79.9% | C+ | | | |
| 657-692 | 73.0-76.9% | C | | | |
| 630-656 | 70.0-72.9% | C- | | | |

**Academic Policies and Resources: UF Syllabus Policy Links - Online Course Syllabi - University of Florida**

**Use of Artificial Intelligence (AI) Tools**

If students use AI tools in preparing assignments for this course, it is the students' responsibility to ensure the information's accuracy and credibility, abide by the UF Honor Code, and acknowledge in writing (in a footnote on the assignment) which AI tools were used and specifically how they were used on that particular assignment. AI tools are not allowed for quizzes or exams in this course.

**Class Schedule**

| | Date | Topic | Optional Textbook Readings (Nelms, Sucher)<br>3rd = Third Edition<br>4th = Fourth Edition<br>Additional supplemental readings will be posted on Canvas | Major Assignments and Exams |
|---|---|---|---|---|
| Introduction | Tuesday<br>Aug 26<br>(double period) | Syllabus and Expectations<br>The Nutrition Care Process | | |
| Week 1 | Week 0 Quiz Due by 11:59pm on Wednesday Aug 27 | | | |
| | Wednesday<br>Aug 27 | The Nutrition Care Process (continued) | 3rd: Chapter 2<br>4th: Chapter 2 | |
| | **Watch for Tuesday…** | Nutrition Screening | 3rd: Chapter 3 (pg. 37)<br>4th: Chapter 3 (pg. 44) | |
| | Tuesday<br>Sep 2<br>(double period) | Nutrition Screening Activity and Review | | |
| Week 2 | Week 1 Quiz Due by 11:59pm on Wednesday Sep 3 | | | |
| | Wednesday<br>Sep 3 | The Malnutrition Diagnostic Framework | 3rd: Chapter 3<br>4th: Chapter 3 | |
| | **Watch for Tuesday…** | Anthropometrics and Body Composition<br>Estimating Energy Needs | | |

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| | Tuesday<br>Sep 9<br>(double period) | The Malnutrition Diagnostic Framework (continued)<br>Estimating Energy Needs Review | 3rd: Chapter 3<br>4th: Chapter 3 | |
| Week 3 | Week 2 Quiz due by 11:59pm on Wednesday Sep 10 | | | |
| | Wednesday<br>Sep 10 | Protein Needs | 3rd: Chapter 3<br>4th: Chapter 3 | |
| | **Watch for Tuesday…** | Dietary Assessment, Fluid Needs, Interpreting Labs | | |
| | Tuesday<br>Sep 16<br>(double period) | Protein Needs (continued)<br>Interpreting Labs Activity | | |
| Week 4 | Week 3 Quiz due by 11:59pm on Wednesday Sep 17 | | | |
| | Wednesday<br>Sep 17 | Introduction to **Unit 1 Project: Data Analysis Project**<br>(Deriving Lab Value Reference Ranges) | | |
| | **Watch for Tuesday…** | TBA | | |
| | Tuesday<br>Sep 23<br>(double period) | Unit 1 Project Guided Workshop | | **UNIT 1 PROJECT DUE** |
| Week 5 | NO QUIZ THIS WEEK | | | |
| | Wednesday<br>Sep 24 | Review for Unit 1 Exam | | |
| | **Complete for Monday….** | **Unit 1 Exam: Nutrition Assessment (Due Monday Sep 29 at 11:59pm)** | | **UNIT 1 EXAM** |

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| | Tuesday<br>Sep 30<br>(double period) | Introduction to Gastrointestinal Anatomy, Digestion and Absorption | | |
| Week 6 | NO QUIZ THIS WEEK | | | |
| | Wednesday<br>Oct 1 | Gastrointestinal Anatomy, Digestion and Absorption | | |
| | **Watch for Tuesday…** | TBA | | |
| | Tuesday<br>Oct 7<br>(double period) | Gastrointestinal Activity and Review<br>Introduction to Enteral Nutrition | | |
| Week 7 | Week 6 Quiz due by 11:59pm on Wednesday Oct 8 | | | |
| | Wednesday<br>Oct 8 | Enteral Nutrition (Part 1) | 3rd: Chapter 5<br>4th: Chapter 5 | |
| | **Watch for Tuesday…** | Enteral Nutrition (Part 2) | | |
| | Tuesday<br>Oct 14<br>(double period) | Enteral Nutrition (Part 3)<br>Enteral Nutrition Activity and Review | | |
| Week 8 | Week 7 Quiz due by 11:59pm on Wednesday Oct 15 | | | |
| | Wednesday<br>Oct 15 | Parenteral Nutrition (Part 1) | 3rd: Chapter 5<br>4th: Chapter 5 | |
| | **Watch for Tuesday…** | Parenteral Nutrition (Part 2) | | |
| | Tuesday<br>Oct 21<br>(double period) | Parenteral Nutrition Activity and Review | | |

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| Week 9 | Week 8 Quiz due by 11:59pm on Wednesday Oct 22 | | | |
| | Wednesday<br>Oct 22 | Introduction to **Unit 2 Project: Nutrition Support Case Study**<br>(Interprofessional Care for a Patient Requiring Enteral and Parenteral Nutrition) | | |
| | **Watch for Tuesday…** | N/A | | |
| | Tuesday<br>Oct 28<br>(double period) | In-Class Guided Case Study Work Session | | |
| Week 10 | NO QUIZ THIS WEEK | | | |
| | Wednesday<br>Oct 29 | In-Class Guided Case Study Work Session | | |
| | **Watch for Tuesday…** | N/A | | |
| | Tuesday<br>Nov 4<br>(double period) | Nutritional Genomics | | **UNIT 2 PROJECT DUE**<br>(Nutrition Support Case Study) |
| Week 11 | NO QUIZ THIS WEEK | | | |
| | Wednesday<br>Nov 5 | Review for Unit 2 Exam | | |
| | **Complete for Monday** | **Unit 2 Exam: Nutrition Support (Due Monday Nov 10 at 11:59pm)** | | **UNIT 2 EXAM** |
| | Tuesday<br>Nov 11 | NO CLASS – VETERAN'S DAY | | |
| Week 12 | Week 11 Quiz due by 11:59pm on Wednesday Nov 12 | | | |
| | Wednesday | Nutrition and Cancer (Part 1) | 3rd: Chapter 23 | |

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| | Nov 12 | | 4th: Chapter 23 | |
| | **Watch for Tuesday…** | Nutrition and Cancer (Parts 2 and 3) | | |
| | Tuesday<br>Nov 18<br>(double period) | Nutrition and Cancer Review<br>Introduction to **Unit 3 Project: Evidence-Based Practice Project**<br>Writing an Answerable Clinical Question (PICO Question Format) | | |
| Week 13 | Week 12 Quiz due by 11:59pm on Wednesday Nov 19 | | | |
| | Wednesday<br>Nov 19 | Searching and Critically Appraising the Literature | | |
| | Tuesday<br>Nov 25 | NO CLASS – HAPPY THANKSGIVING! | | |
| Week 14 | NO QUIZ THIS WEEK | | | |
| | Wednesday<br>Nov 26 | NO CLASS – HAPPY THANKSGIVING! | | |
| | **Over Thanksgiving Break…** | Work on Unit 3 Project<br>Watch:<br>• Nutrition and Critical Care<br>• Nutrition and Pharmacology | 3rd: Chapter 22 (Critical Care)<br>4th: Chapter 22 (Critical Care)<br>3rd: Chapters 11 and 24 (Pharmacology)<br>4th: Chapter 11, and Chapter 22 Section 22.11 (pgs. 693-698) (Pharmacology) | |
| | Tuesday<br>Dec 2<br>(double period) | Nutrition and Critical Care Activity and Review<br>Nutrition and Pharmacology Activity and Review | | **UNIT 3 PROJECT DUE**<br>(Evidence-Based Practice Project) |
| Week 15 | Week 14 Quiz due by 11:59pm on Wednesday Dec 3 | | | |
| | Wednesday | Review for Exam 3 | | |

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| | Dec 3 | | | |
| FINAL EXAMS WEEK | Thursday<br>Dec 11 | **Unit 3 Exam**<br>**(Due December 11 at 11:59pm)** | | **UNIT 3 EXAM** |