

# IDS 2935: Personalized Nutrition

## Quest 2

### I. General Information

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#### **Class Meetings**

- Fall 2024
- Tuesdays Period 4 (10:40 AM - 11:30 AM), and Thursday Periods 4-5 (10:40 AM - 12:35 PM)
- Classroom: FLG 0265 (Tuesdays); AND 0019 (Thursdays)

#### **Instructors**

- Zhiyong Cheng
- FSHN Building (Building 475), Room 265
- Office Hours: Wednesdays 2:00am-3:00pm or by appointment via email
- Email: z.cheng@ufl.edu
  
- Laura Acosta
- Building 120, Room 105D
- Office Hours: Wednesdays 3:00-4:30pm by appointment. (Please email me at ljacosta@ufl.edu to make an appointment. I will send you a Zoom link, or we can arrange an in-person meeting if you would prefer.)
- Email: ljacosta@ufl.edu
  
- Diana Taft
- FSHN Building (Building 475), Room 409A
- 30 minutes after class or by appointment.
- Email: dianataft@ufl.edu

#### **Course Description**

Can nutrition recommendations be customized for each individual based on their unique genetic, metabolic, and environmental characteristics? This course will grapple with how and where nutrition should fit in an emerging era of precision medicine. We will explore the challenges of malnutrition and the growing epidemic of metabolic disease (e.g., obesity, diabetes, cardiovascular disease, and cancer). Based on the disciplines of molecular science, dietetics, epidemiology, and data analysis (including artificial intelligence), the course will investigate and reflect on the causes and consequences of malnutrition, and how dietary or nutrient choices can be personalized to prevent metabolic disease. Major themes include the molecular determinants of differences among individuals and nutritional contributions, malnutrition and metabolic disorders, and the application of personalized nutrition in

disease prevention. Through a field trip to a local supermarket, food frequency questionnaire, and classroom discussion and debates, students will tackle the question of whether and how personalized nutrition can be applied to address malnutrition and the global epidemic of metabolic disorders. The course will culminate with a project in which students synthesize information and knowledge to develop a mock meal plan for individuals who themselves or whose parents or grandparents experienced malnutrition.

## **Quest and General Education Credit**

- Quest 2
- Biological Sciences

*This course accomplishes the Quest and General Education objectives of the subject areas listed above. A minimum grade of C is required for Quest and General Education credit. Courses intended to satisfy Quest and General Education requirements cannot be taken S-U.*

## **Required Readings and Works**

Materials and Supplies Fees: n/a

This course has no required textbook, but weekly readings will be posted on Canvas.

## **Potential trigger warning**

As instructors, we are aware that eating disorders exist. We have tried to be sensitive to students, this is why the alternative assignment to the FFQ exists. You can request the alternative assignment for any reason, no explanation required. If you have an eating disorder, we STRONGLY suggest you request the alternative assignment. That said, this is a course on a nutrition and diet, and much of the material can be triggering. If you find yourself struggling with the topics discussed in the class, please let us know as soon as possible and seek professional support from your counselor about if this course is appropriate for you.

## **II. Graded Work**

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### **Description of Graded Work**

10 Weekly Quizzes (closed book):

Multiple choice, matching, and fill-in-the-blank style questions

5 points each, lowest score dropped. Missed quizzes may be made up IF a request to make up the missed quiz is made within 7 days.

Total: 45 points (30% of final grade)

Supermarket Field Trip Reflection:

1 page, 400-600 word paper summarizing what you learned from the supermarket field trip, and how you can apply what you learned to your daily life as select your food.

Total: 15 points (10% of final grade)

**Food Frequency Questionnaire (FFQ) Analysis:**

Complete the DHQ III from the National Institutes of Health. Then complete a worksheet summarizing and synthesizing the results. Alternate assignment is available if completing a Food Frequency Questionnaire is in any way a problem for your health or mental health. Explanation is not required; simply request the alternate assignment.

Total: 15 points (10% of final grade)

**Dietary Recommendations:**

Read the context information, made dietary recommendations for the individuals described in the context, and explain why the rationales for your recommendations.

Total: 15 points (10% of grade)

**In-Class Debate and Position Paper:**

Choose from these topics: 1) Should nutrition interventions be applied to everyone (as part of public health initiatives)? 2) Is food medicine? 3) Is the information available to dietitians today enough to design a truly personalized diet? If not, what is needed? If so, what information qualifies? 4) Are current tools to measure dietary intake sufficient to develop personalized nutrition?

Based on class discussions, formulate an opinion. Then, participate in an in-class debate (15 points), presenting and defending your position. (Or, change your mind if the other side was compelling.) After the debate, compose a 500-1000 word position paper (30 points), describing your final stance on the issue and justifying your position scientifically.

Total: 45 points (30% of final grade)

**Attendance and Participation:**

15 points (10% of final grade)

**Grade Breakdown Table**

Quizzes	<i>10*5 pts each = 50 pts, lowest dropped, 45 pts</i>	<b>30%</b>
Supermarket Field Trip Reflection	<i>15 pts</i>	<b>10%</b>
Food Frequency Questionnaire	<i>15 pts</i>	<b>10%</b>
Mock meal plan	<i>15 pts</i>	<b>10%</b>
In-class debate (group project)	<i>15 pts</i>	<b>10%</b>
Position paper	<i>30 pts</i>	<b>20%</b>
Participation	<i>15 pts</i>	<b>10%</b>
<b>Total</b>	<b>150 pts</b>	<b>100%</b>

**Grading Scale**

For information on how UF assigns grade points, visit: <https://catalog.ufl.edu/UGRD/academic-regulations/grades-grading-policies/>

A	94.0 – 100.0%		C	74.0 – 76.9%
A-	90.0 – 93.9%		C-	70.0 – 73.9%
B+	87.0 – 89.9%		D+	67.0 – 69.9%

B	84.0 – 86.9%		D	64.0 – 66.9%
B-	80.0 – 83.9%		D-	60.0 – 63.9%
C+	77.0 – 79.9%		E	<60.0

## Grading Rubrics

### Attendance and Participation (Grading Rubric)

Criteria	Unsatisfactory-Beginning	Satisfactory-Developing	Excellent-Accomplished	Total
<b>Attendance</b> (3 absences are allowed with no questions asked and no grade penalty. You do not need to provide an explanation or documentation. Absences beyond 3 will be penalized if prior approval is not received).	<b>2 points</b> 7+ absences (unexcused)	<b>4 points</b> 4-6 absences (unexcused)	<b>6 points</b> Besides the 3 penalty-free absences, attended all class sessions or received approval for necessary absences	<b>/6</b>
<b>Contributions to class activities and discussion - Frequency</b>	<b>1 point</b> Student does not initiate contribution & does not participate without prompting from the instructor.	<b>2 points</b> Student sometimes initiates contribution, but does so infrequently (fewer than half of the class sessions)	<b>3 points</b> Student initiates contribution in at least half of the class sessions	<b>/3</b>
<b>Contributions to class activities and discussion - Quality</b>	<b>1 point</b> Comments are uninformative and lacking in appropriate terminology. Heavy reliance on opinion and personal taste.	<b>2 points</b> Comments are sometimes constructive, but not always relevant to the discussion. Student sometimes uses appropriate terminology.	<b>3 points</b> Comments are mostly insightful & constructive; student mostly uses appropriate terminology.	<b>/3</b>

<b>Attentiveness</b>	<b>1 points</b>	<b>2 points</b>	<b>3 points</b>	<b>/3</b>
	Does not listen to others; regularly talks while others speak or does not pay attention while others speak; detracts from discussion; sleeps, etc.	Student is mostly attentive when others present materials and perspectives, but sometimes needs to be reminded of the class focus.	Student listens attentively when others present materials and perspectives, as indicated by comments that build on others' remarks, i.e., student hears what others say & contributes to the dialogue.	
				<b>/15</b>

*Adapted from Carnegie Mellon (The point values and distribution are weighted by the relative contribution of each item to class success)*

#### **Debate (Grading Rubric, Group-based grade\*)**

<b>Criteria</b>	<b>Unsatisfactory-Beginning (1 point)</b>	<b>Satisfactory-Developing (2 points)</b>	<b>Excellent-Accomplished (3 points)</b>	<b>Earned Points</b>
<b>Information</b>	Some information was accurate and credible, but there were some minor inaccuracies	Most information was clear, accurate, and credible, but was not usually thorough	All information was clear, accurate, credible, and thorough	<b>/3</b>
<b>Rebuttal</b>	Some counter arguments were weak and irrelevant	Most counterarguments were accurate, relevant, but several were weak	All counterarguments were accurate, relevant and strong	<b>/3</b>
<b>Use of facts</b>	Some points were supported well, others were not	Every major point was supported with the highest quality of evidence but the relevance of some was questionable	Every major point was well supported with the highest quality evidence	<b>/3</b>
<b>Organization</b>	Some arguments were tied to the topic but not logical in presentation	Most arguments were clearly tied to the topic but not	All arguments were clearly tied to the topic and organized in a tight, logical fashion	<b>/3</b>

		organized in a tight, logical fashion		
<b>Understanding of topic</b>	The team seemed to understand the main points of the topic, but didn't present with ease	The team seemed to understand the main points of the topic and presented those with ease	The team clearly understood the topic in depth and presented their information forcefully and convincingly	/3
<b>Total (15 possible points)</b>				

Adapted from <http://course1.winona.edu/shatfield/aire/classdebate.pdf>

*\* A signed statement of the % (a) and details of contribution is required from each student in a group. In the meantime, a peer evaluation will be implemented to let others in the group member rate the % (b) of contribution. The average of items (a) and (b) will be calculated for each student. If your average is less than 15% (in reference to 25% in a 4-person group), you will lose one point from the group grade per 5%: i.e., if your average is 10-14%, you will lose 1 point, 5-9% you will lose 2 points, 1-4% you will lose 3 points. If a student does not have a defined contribution to the project, they will earn a 0. (The point values and distribution are weighted by the relative contribution of each item to the project)*

### Position Paper (Grading Rubric, Individual Grade)

If student performance is sufficiently low for any criteria, instructors reserve the right to assign a zero for that category. For example, a reference that does not exist will result in a 0 for depth of content.

<b>Criteria</b>	<b>Unsatisfactory-Beginning (2 points)</b>	<b>Satisfactory-Developing (4 points)</b>	<b>Excellent-Accomplished (6 points)</b>	<b>Earned Points</b>
<b>Organization</b>	Paper is poorly organized and difficult to follow.	Paper is generally clear and well organized. A few minor points were confusing.	Paper is clear, logical, and organized. Easy to follow line of reasoning.	
<b>Depth of Content</b>	Background information not provided, paper not justified, objective not stated, and explanations of key concepts with support from the literature and explanations of research related to topic inaccurate or incomplete. Little attempt made to tie	Some background information provided, objective not stated, explanations of key concepts with support from the literature and explanations of research related to topic mostly accurate and complete, but weak in some areas.	Extensive background information provided, objective clearly stated, explanations of key concepts with support from the literature and explanations of research related to topic very accurate and complete.	

	research papers together.			
<b>Quality and citation of evidence or literature</b>	The evidence was not credentialed or peer reviewed. Citation of was not accurate.	Most evidence was credentialed/peer reviewed. Citation was accurate in general but with a few errors.	All evidence was credentialed or peer reviewed. Citation was accurate.	
<b>Formatting</b>	Most sections of the paper did not follow the formatting instruction.	Most sections of the paper followed the formatting instruction, with a few areas that need reformatting.	All sections of the paper followed the formatting instruction, with a few areas that need reformatting.	
<b>Grammar/Word Choice</b>	Sentences are often incomplete, and grammatical errors are evident throughout the paper. Paper does not flow well at all.	For the most part, sentences are complete, grammatically sound. Some sections of the paper flow well, however others appear choppy.	Sentences are consistently complete and grammatically sound. The paper flows well throughout.	
<b>Total points (30 possible points)</b>				

*(The point values and distribution are weighted by the relative contribution of each item to the paper)*

*\* A signed statement of the % (a) and details of contribution is required from each student in a group. In the meantime, a peer evaluation will be implemented to let others in the group member rate the % (b) of contribution. The average of items (a) and (b) will be calculated for each student. If your average is less than 15% (in reference to 25% in a 4-person group), you will lose one point from the group grade per 5%: i.e., if your average is 10-14%, you will lose 1 point, 5-9% you will lose 2 points, 1-4% you will lose 3 points. If a student does not have a defined contribution to the project, they will earn a 0.*

*(The point values and distribution are weighted by the relative contribution of each item to the project)*

Note: Lack of submission will result in zero point.

### **Supermarket Field Trip Reflection (Grading Rubric, Individual Grade)**

If student performance is sufficiently low for any criteria, instructors reserve the right to assign a zero for that category. For example, if a student does not attend the field trip and does not obtain the information covered, analysis will likely score 0 because it will be disconnected from the material covered.

<b>Criteria</b>	<b>Unsatisfactory-Beginning (3 points)</b>	<b>Satisfactory-Developing (4 points)</b>	<b>Excellent-Accomplished (5 points)</b>	<b>Earned Points</b>
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<b>Completeness</b>	Addresses the assignment prompt, but only partially.  OR Does not adhere to required length.	Almost completely answers the assignment prompt. Adheres to required length.	Clearly and completely answers the assignment prompt. Adheres to required length.	
<b>Analysis</b>	Slight or unclear attempt to integrate relevant facts, relationships, and the student's self.	Clear attempt to integrate relevant facts, relationships, and the student's self.	Clear integration of relevant facts, relationships, and the student's self. Includes insightful conclusions and synthesis of ideas, including how new learning can be applied to personal behaviors and choices.	
<b>Writing</b>	Includes observations but no critical reflection.  Acceptable spelling and grammar with some errors.	Includes observations with some critical reflection.  Good spelling and grammar with only minor errors.	Includes observations with excellent critical reflection (i.e. exploration and critique of assumptions, beliefs, and/or biases).  Excellent spelling and grammar with no or minimal errors.	
<b>Total (15 possible points)</b>				

Adapted from: USC Center for Teaching Excellence. Lack of submission will result in zero point.

*(The point values and distribution are weighted by the relative contribution of each item to the project)*

### **Dietary Recommendations (Grading Rubric, Individual Grade)**

If student performance is sufficiently low for any criteria, instructors reserve the right to assign a zero for that category. For example, a reference that does not exist will result in a 0 for analysis.

<b>Criteria</b>	<b>Unsatisfactory-Beginning (3 points)</b>	<b>Satisfactory-Developing (4 points)</b>	<b>Excellent-Accomplished (5 points)</b>	<b>Earned Points</b>
<b>Completeness</b>	Answered the questions partially.	Answered the questions completely.	Answered the questions completely and convincingly.	



<b>Analysis</b>	The rationales were weak, lacked logic and evidence, and dissociated from the recommendation	The rationales integrated evidence and partially support the recommendations	The rationales were logical, integrated evidence, and fully support the recommendations	
<b>Writing</b>	Acceptable spelling and grammar with some errors. Did not adhere to the formatting guideline.	Good spelling and grammar with only minor errors. Adhered to the formatting guideline.	Excellent spelling and grammar with no or minimal errors. Adhered to the formatting guideline.	

### III. Annotated Weekly Schedule

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<b>Week</b>	<b>Topics, Homework, and Assignments</b>
Week 1: August 22-23 Dr. Acosta	<ul style="list-style-type: none"> <li>• <b>Topic:</b> Introduction to Personalized Nutrition</li> <li>• <b>Summary:</b> This week we will get oriented to the course and the concept of personalized nutrition. We will discuss the syllabus and expectations. You will take a pre-test (not graded) that will help us evaluate your current knowledge of personalized nutrition and tailor the course to your interests.</li> <li>• <b>Required Readings/Works:</b> video watch (Too good to be true - Battling Bad Science, 14 min): <a href="https://www.youtube.com/watch?v=h4MhbkWJzKk">https://www.youtube.com/watch?v=h4MhbkWJzKk</a></li> <li>• <b>Assignment:</b> Pre-test (homework, due Tuesday, August 27, not graded but worth 1 extra credit point if completed on time)</li> </ul>
Week 2: August 26-30 Dr. Acosta	<ul style="list-style-type: none"> <li>• <b>Topic:</b> The Meaning of the Mean (i.e., inter-individual variability in nutrition research)</li> <li>• <b>Summary:</b> As you read nutrition research literature, you will often encounter results reported as means (averages). Because nutrition studies are often observational epidemiological studies, it's important to understand how statistics work on the population level. This week we will critically evaluate the meaning of these results, how to interpret them, and whether we can make assumptions about individuals based on aggregate data. What are the implications of using "averages" in the context of individual patient or client care?</li> <li>• <b>Required Readings/Works:</b> Rose T. The Invention of the Average. In: <i>The End of Average</i>. New York: HarperOne. 2016;19-38.</li> <li>• <b>Assignment:</b> Complete pre-test by Tuesday, August 27 (for 1 extra credit point)</li> </ul>
Week 3: September 2-6	<ul style="list-style-type: none"> <li>• <b>Topic:</b> How we differ in response to foods, and how we don't</li> </ul>

Week	Topics, Homework, and Assignments
Dr. Taft	<ul style="list-style-type: none"> <li>• <b>Summary:</b> There are a wide variety of diets reported in the popular press, some of which claim to be based on your genetics. This week, we will discuss the difficulties in communicating nuanced dietary information to a lay audience, and cases where diet must be individualized (i.e., PKU). We will also discuss how populations need to be studied to identify individual factors important to selecting diet.</li> <li>• <b>Required Readings/Works:</b> Chapter 3 - Eat Right for Your Type Complete (no page numbers for online version); Phenylketonuria NIH rare diseases website - <a href="https://rarediseases.info.nih.gov/diseases/7383/phenylketonuria">https://rarediseases.info.nih.gov/diseases/7383/phenylketonuria</a> [about the disease pages on disease at a glance, symptoms, causes, next steps]; University of Washington What is the diet for PKU webpage - <a href="https://depts.washington.edu/pku/about/diet.html">https://depts.washington.edu/pku/about/diet.html</a></li> <li>• <b>Assignment:</b> Quiz 1: Tuesday, September 3</li> </ul>
Week 4: September 9-13 Dr. Taft	<ul style="list-style-type: none"> <li>• <b>Topic:</b> Why do we target everyone with interventions?</li> <li>• <b>Summary:</b> What is public health nutrition? What does it mean to say that “good public health is invisible”? What examples of successful public health interventions can be found in a grocery store, and what do these interventions mean for individual diet choices?</li> <li>• <b>Required Readings/Works:</b> History of US Iodine Fortification and Supplementation <i>Nutrients</i> pg 1740-1746 doi <a href="https://doi.org/10.3390/nu4111740">10.3390/nu4111740</a>; The Contribution of Public Health and Improved Social Conditions to Increased Life Expectancy: An analysis of public awareness <i>Journal of Community Medicine and Health Education</i> doi: 10.4172/2161-0711.1000311 (5 pages)</li> <li>• <b>Assignment:</b> Quiz 2: Tuesday, September 10; Field Trip on Thursday, September 12</li> </ul>
Week 5: September 16-20 Dr. Cheng	<ul style="list-style-type: none"> <li>• <b>Topic:</b> Metabolites and Metabolic Memory (i.e., how we differ in genetic and epigenetic makeup)</li> <li>• <b>Summary:</b> What is metabolite? What is metabolic memory? How does metabolic memory affect an individual’s metabolic health?</li> <li>• <b>Required Readings/Works:</b> NCBI Bookshelf – <i>Metabolism</i> (pp. 1-5); Video watch (Epigenetics– 13 min) <a href="https://www.youtube.com/watch?v=avWwfuYnnl&amp;t=33s">https://www.youtube.com/watch?v=avWwfuYnnl&amp;t=33s</a></li> <li>• <b>Assignment:</b> Quiz 3: Tuesday, September 17; Supermarket Field Trip Reflection Due Thursday, September 19</li> </ul>
Week 6: September 23-27 Dr. Cheng	<ul style="list-style-type: none"> <li>• <b>Topic:</b> Spotlight on Carbs in Metabolic Memories</li> <li>• <b>Summary:</b> Are all carbs the same? How does lifestyle impact carb status? How do carbs influence an individual’s metabolic memory and health?</li> <li>• <b>Required Readings/Works:</b> NCBI Bookshelf – <i>carbohydrates</i> (pp. 1-5)</li> <li>• <b>Assignment:</b> Quiz 4: Tuesday, September 24</li> </ul>
Week 7: September 30 - October 4	<ul style="list-style-type: none"> <li>• <b>Topic:</b> Spotlight on Fat in Metabolic Memories</li> <li>• <b>Summary:</b> Are all fats the same? How does lifestyle impact fat status? How do fats influence an individual’s metabolic memory and health?</li> </ul>

Week	Topics, Homework, and Assignments
Dr. Cheng	<ul style="list-style-type: none"> <li>• <b>Required Readings/Works:</b> NCBI Bookshelf – <i>Lipids</i> (pp. 1-7)</li> <li>• <b>Assignment:</b> Quiz 5: Tuesday, October 1</li> </ul>
Week 8: October 7-11 Dr. Taft	<ul style="list-style-type: none"> <li>• <b>Topic:</b> Spotlight on the Microbiome</li> <li>• <b>Summary:</b> What do our gut microbes eat? How do we acquire them? What epidemiological study designs are needed to understand our gut microbes?</li> <li>• <b>Required Readings/Works:</b> Diet and the human gut microbiome: an international review, <i>Digestive Diseases and Sciences</i> pgs. 723-740, doi: <a href="https://doi.org/10.1007/s10620-020-06112-w">https://doi.org/10.1007/s10620-020-06112-w</a></li> <li>• <b>Assignment:</b> Quiz 6: Tuesday, October 8</li> </ul>
Week 9: October 14-18 Dr. Cheng	<ul style="list-style-type: none"> <li>• <b>Topic:</b> Spotlight on Proteins in Metabolic Memories</li> <li>• <b>Summary:</b> Are all proteins the same? How does lifestyle impact protein status? How do proteins or AAs influence an individual’s metabolic memory and health?</li> <li>• <b>Required Readings/Works:</b> NCBI Bookshelf – <i>Proteins</i> (pp. 1-13)</li> <li>• <b>Assignment:</b> Quiz 7: Tuesday, October 15</li> </ul>
Week 10: October 21-25 All	<ul style="list-style-type: none"> <li>• <b>Topic:</b> Debate</li> <li>• <b>Summary:</b> There are ongoing controversies over personalized nutrition. Depending on class size we will debate one or more of these topics:            1) Should nutrition interventions be applied to everyone (as part of public health initiatives)? 2) Is food medicine? 3) What qualifies as personalized nutrition (i.e. does a diet plan developed by a dietitian today count?) 4) Is breastmilk personalized nutrition?</li> <li>• <b>Required Readings/Works:</b> None for this week</li> <li>• <b>Assignment:</b> In-Class Debate: Thursday, October 24</li> </ul>
Week 11: October 28- November 1 Dr. Cheng	<ul style="list-style-type: none"> <li>• <b>Topic:</b> Spotlight on Vitamins in Metabolic Memories</li> <li>• <b>Summary:</b> What is a vitamin? How does lifestyle impact vitamins status? How do vitamins influence an individual’s metabolic memory and health?</li> <li>• <b>Required Readings/Works:</b> NCBI Bookshelf – <i>Protein Enzymes</i> (pp. 1-5)</li> <li>• <b>Assignment:</b> Quiz 8: Tuesday, October 29; Position Paper Due Thursday, October 31</li> </ul>
Week 12: November 4-8 Dr. Cheng	<ul style="list-style-type: none"> <li>• <b>Topic:</b> Spotlight on Minerals in Metabolic Memories</li> <li>• <b>Summary:</b> What is a mineral? How does lifestyle impact minerals status? How do minerals influence an individual’s metabolic memory and health?</li> <li>• <b>Required Readings/Works:</b> NCBI Bookshelf – <i>Minerals</i> (pp. 12-34); National Library of Medicine Definitions of Health Terms – Minerals (pp. 1-4)</li> <li>• <b>Assignment:</b> Quiz 9: Tuesday, November 5</li> </ul>
Week 13: November 11-15 Dr. Taft	<ul style="list-style-type: none"> <li>• <b>Topic:</b> Food Frequency Analysis and Study Designs</li> <li>• <b>Summary:</b> How do we measure diet in humans? What are the basic types of human studies, and what are their strengths and limitations? How do limitations of tools influence epidemiological studies?</li> </ul>

Week	Topics, Homework, and Assignments
	<ul style="list-style-type: none"> <li>• <b>Required Readings/Works:</b> Study design and hypothesis testing: issues in the evaluation of evidence from research in nutritional epidemiology <i>The American Journal of Clinical Nutrition</i> pgs. 1315S-1321S doi: <a href="https://doi.org/10.1093/ajcn/69.6.1315S">https://doi.org/10.1093/ajcn/69.6.1315S</a></li> <li>• <b>Supplementary/Bonus Readings:</b> NutriTools website, Strengths and Weakness of Dietary Assessment Tools (DATs) - <a href="https://www.nutritools.org/strengths-and-weaknesses">https://www.nutritools.org/strengths-and-weaknesses</a> (please note, clicking on the tool name on the website will provide more detail on each tool)</li> <li>• <b>Assignment:</b> FFQ Analysis Worksheet Due Thursday, November 14</li> </ul>
Week 14: November 18-22 Dr. Taft	<ul style="list-style-type: none"> <li>• <b>Topic:</b> Artificial Intelligence and the Future of Personalized Nutrition</li> <li>• <b>Summary:</b> What is AI? How can AI help with nutrition? What are the ethical challenges of using AI for personalized nutrition?</li> <li>• <b>Required Readings/Works:</b> Artificial intelligence in nutrition research: perspectives on current and future research <i>Applied Physiology, Nutrition, and Metabolism</i> pgs. 1-8 doi <a href="https://doi.org/10.1139/apnm-2021-0448">https://doi.org/10.1139/apnm-2021-0448</a></li> <li>• <b>Assignment:</b> Quiz 10: Tuesday, November 19</li> </ul>
Week 15: November 25-29	<ul style="list-style-type: none"> <li>• <b>Thanksgiving Week: No Class</b></li> </ul>
Week 16: December 2-6 Dr. Acosta	<ul style="list-style-type: none"> <li>• <b>Topic:</b> Personalized Nutrition: The Opportunities and Challenges</li> <li>• <b>Summary:</b> Reflecting upon this course, what are the next steps? Where do you see the future of personalized nutrition? What are the opportunities, and what are the challenges?</li> <li>• <b>Required Readings/Works:</b> None this week</li> <li>• <b>Assignment:</b> Dietary Recommendations Due Monday, December 2 at 11:59 pm)</li> </ul>

## IV. Student Learning Outcomes (SLOs)

At the end of this course, students will be expected to have achieved the Quest and General Education learning outcomes as follows:

**Content:** *Students demonstrate competence in the terminology, concepts, theories and methodologies used within the discipline(s).*

- Identify and describe fundamental principles of nutritional genetics. (Aligns with Gen Ed and Quest II *Content* SLOs,)
  - Assignments:
    - Weekly Quizzes
    - In-class Debate

- Identify examples of how genetic variations among individuals may contribute to differences in nutritional needs. (Aligns with Gen Ed and Quest II *Content* SLOs.)
  - Assignments:
    - Weekly Quizzes
    - In-class Debate
    - Mock Meal Plan
- Explain the study designs used to study nutrition. (Aligns with Gen Ed and Quest II *Content* SLOs.)
  - Assignments:
    - Food Frequency Questionnaire
    - Position Paper

**Critical Thinking:** *Students carefully and logically analyze information from multiple perspectives and develop reasoned solutions to problems within the discipline(s).*

- Analyze a food frequency questionnaire. (Aligns with Gen Ed and Quest II *Critical Thinking* SLOs.)
  - Assignment:
    - Food Frequency Questionnaire (FFQ) Analysis
- Contrast public health nutrition with personalized nutrition. (Aligns with Gen Ed and Quest II *Critical Thinking* SLOs.)
  - Assignments:
    - Supermarket Field Trip Reflection
    - Position Paper

**Communication:** *Students communicate knowledge, ideas and reasoning clearly and effectively in written and oral forms appropriate to the discipline(s).*

- Articulate the challenges in implementing a personalized nutrition paradigm. (Aligns with Gen Ed and Quest II *Communication* SLOs.)
  - Assignment:
    - Supermarket Field Trip Reflection
    - Mock Meal Plan
- Debate topics relevant to personalized nutrition, and justify a position scientifically. (Aligns with Gen Ed and Quest II *Communication* SLOs.)
  - Assignments:
    - In-class Debate
    - Position Paper
    - Mock Meal Plan

**Connection:** *Students connect course content with meaningful critical reflection on their intellectual, personal, and professional development at UF and beyond.*

- Apply nutrition principles to practical everyday activities, such as grocery shopping and meal preparation. (Aligns with Quest II *Connection* SLO.)
  - Assignments:
    - Supermarket Field Trip Reflection

- Mock Meal Plan

## V. Quest Learning Experiences

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### 1. Details of Experiential Learning Component

Supermarket Field Trip: There will be two components to this activity. During the class prior to the trip, we will present a lecture on what a public health nutrition intervention is, and what makes for a successful public health nutrition. It will include discussion about how good public health interventions are invisible. This will prepare students for the field trip. Because supermarkets contain a number of highly successful public health interventions, the class will then take a trip to a supermarket where we will walk through the aisles and highlight a number of successful public health interventions. This will make the invisible visible and give students a chance to see the number of public health nutrition interventions they encounter on a daily basis, likely without knowing it.

Food Frequency Questionnaire Analysis: Personalized Nutrition relies on being able to accurately measure diet in a research setting. Completing a food frequency questionnaire will give students direct experience of what tools researchers use to measure diet, and the time research participants spend completing questionnaires for nutrition studies. As food frequency questionnaires can cause problems for individuals struggling with eating disorders, an alternative assignment that does not require the completion of a food frequency questionnaire is available to any student who asks, without need for any explanation of why the alternative assignment was requested. Students who can complete a food frequency questionnaire are encouraged to do so, for the insight into the nature of nutrition research that the questionnaire provides.

### 2. Details of Self-Reflection Component

Supermarket Field Trip Reflection: Following the Supermarket Field Trip, students will write a 1 page reflection paper in which they summarize what they learned from the supermarket field trip, and how they can apply what they learned to their daily lives. They will reflect on how they can make more informed, conscious food choices, and how public health initiatives influence the availability and location of foods on grocery store shelves.

Position Paper: Following the in-class debate, students will compose a position paper in which they articulate the opinion they have formed after participating in the debate. They will reflect on how their thinking has evolved, describe their final stance, and justify their position scientifically.

## VI. Required Policies

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### Attendance Policy

Requirements for class attendance and make-up exams, assignments, and other work in this course are consistent with university policies that can be found at:

<https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx>

## **Students Requiring Accommodation**

Students with disabilities who experience learning barriers and would like to request academic accommodations should connect with the disability Resource Center by visiting <https://disability.ufl.edu/students/get-started/>. It is important for students to share their accommodation letter with their instructor and discuss their access needs, as early as possible in the semester.

## **UF Evaluations Process**

Students are expected to provide professional and respectful feedback on the quality of instruction in this course by completing course evaluations online via GatorEvals. Guidance on how to give feedback in a professional and respectful manner is available at <https://gatorevals.aa.ufl.edu/students/>. Students will be notified when the evaluation period opens, and can complete evaluations through the email they receive from GatorEvals, in their Canvas course menu under GatorEvals, or via <https://ufl.bluera.com/ufl/>. Summaries of course evaluation results are available to students at <https://gatorevals.aa.ufl.edu/public-results/>.

## **University Honesty Policy**

UF students are bound by The Honor Pledge which states, “We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honor and integrity by abiding by the Honor Code. On all work submitted for credit by students at the University of Florida, the following pledge is either required or implied: “On my honor, I have neither given nor received unauthorized aid in doing this assignment.” The Honor Code (<https://www.dso.ufl.edu/sccr/process/student-conduct-honor-code/>) specifies a number of behaviors that are in violation of this code and the possible sanctions. Furthermore, you are obligated to report any condition that facilitates academic misconduct to appropriate personnel. If you have any questions or concerns, please consult with the instructor or TAs in this class.

## **Counseling and Wellness Center**

Contact information for the Counseling and Wellness Center: <http://www.counseling.ufl.edu/>, 392-1575; and the University Police Department: 392-1111 or 9-1-1 for emergencies.

## **The Writing Studio**

The writing studio is committed to helping University of Florida students meet their academic and professional goals by becoming better writers. Visit the writing studio online at <http://writing.ufl.edu/writing-studio/> or in 2215 Turlington Hall for one-on-one consultations and workshops.

## **In-Class Recordings**

Students are allowed to record video or audio of class lectures. However, the purposes for which these recordings may be used are strictly controlled. The only allowable purposes are (1) for personal educational use, (2) in connection with a complaint to the university, or (3) as evidence in, or in preparation for, a criminal or civil proceeding. All other purposes are prohibited. Specifically, students may not publish recorded lectures without the written consent of the instructor.

A “class lecture” is an educational presentation intended to inform or teach enrolled students about a particular subject, including any instructor-led discussions that form part of the presentation, and delivered by any instructor hired or appointed by the University, or by a guest instructor, as part of a University of Florida course. A class lecture does not include lab sessions, student presentations, clinical presentations such as patient history, academic exercises involving solely student participation, assessments (quizzes, tests, exams), field trips, private conversations between students in the class or between a student and the faculty or lecturer during a class session.

Publication without permission of the instructor is prohibited. To “publish” means to share, transmit, circulate, distribute, or provide access to a recording, regardless of format or medium, to another person (or persons), including but not limited to another student within the same class section. Additionally, a recording, or transcript of a recording, is considered published if it is posted on or uploaded to, in whole or in part, any media platform, including but not limited to social media, book, magazine, newspaper, leaflet, or third party note/tutoring services. A student who publishes a recording without written consent may be subject to a civil cause of action instituted by a person injured by the publication and/or discipline under UF Regulation 4.040 Student Honor Code and Student Conduct Code.

## **Use of artificial intelligence (AI) tools**

Note that the accuracy and credibility of information from AI-based platforms (e.g., ChatGPT) have been questioned. If students use AI tools to prepare their assignments, it is the students’ responsibility to ensure the information credibility, acknowledge the AI assistance and sources, and abide by the UF Honor Code. AI tools are not allowed for closed-book quizzes or exams.