



Department of Sociology, Social Work and Family Sciences  
**NUT 3035 Nutrition Research through the Lifecycle**  
**3 units**

**Spring 2022**

<b>Meeting days:</b> Mon/Wed	<b>Instructor title and name:</b> Prof Cindy Swann, MS, RD, CDE
<b>Meeting times:</b> 8:15-9:30 am	<b>Phone:</b> 619-849-2351
<b>Meeting location:</b> Evans Hall 121	<b>E-mail:</b> cindyswann@pointloma.edu
<b>Final Exam:</b> Fri., 5/06, 7:30-10:00 am	<b>Office location and hours:</b> Evans 134 Mon/ Wed 1:30-2:20; Tues/Thurs 9:00-9:45 am or by appt.

**PLNU Mission:**

To Teach ~ To Shape ~ To Send

Point Loma Nazarene University exists to provide higher education in a vital Christian community where minds are engaged and challenged, character is modeled and formed, and service becomes an expression of faith. Being of Wesleyan heritage, we aspire to be a learning community where grace is foundational, truth is pursued, and holiness is a way of life.

**GOALS AND OUTCOMES:**

**Course Description:**

A study of nutrition specifically applied to the stages of human development and the life cycle. Current scientific literature is reviewed and applicable research methodologies are discussed. The role of statistics in scientific research is reviewed. Three (3) semester units.

**Dietetic Program Learning Outcomes:**

- PLO 1. Demonstrate content knowledge of food and nutrition as well as concepts and theories of nutrition across a broad range including: lifecycle stages, cellular nutrition, disease prevention and medical therapy; food and food systems; development, modification, and evaluation of recipes, menus and food products.
- PLO 3. Identify and assess scientific research evaluating current evidence-based research related to dietetics.
- PLO 4. Evaluate the effects of societal, cultural, ethical and financial dynamics upon diet trends, dietary choices, and food preparation methods among individuals, families and societies.

**NUT 3035 Course Student Learning Outcomes:**

By participating in this course, students will be able to:

1. Explain the nutritive needs of humans in the fetal, infant, child adolescent, adult and elderly stages of life.
2. Describe the factors that alter nutrient needs at each stage.
3. Describe the factors that influence dietary intake at each stage.
4. Identify strategies to enable nutritive needs to be met at each stage.
5. Describe basic types of research studies that can be used to study nutrition science.

6. Interpret, evaluate and synthesize current nutrition research literature to formulate appropriate conclusions;
7. Describe and explain how basic types of data analyses are used in inferential statistics;
8. Conduct oral presentations on journal articles pertaining to life cycle stages.

### **AND's Foundation Knowledge and Skills for Entry-Level Didactic Program in Dietetics (DPD) Based on 2022 ERAS:**

KRDN 1.1 Demonstrate how to locate, interpret, evaluate and use professional literature to make ethical, evidence-based practice decisions.

KRDN 1.2 Select and use appropriate current information technologies to locate and apply evidence-based guidelines and protocols.

KRDN 1.3 Apply critical thinking skills.

KRDN 2.1 Demonstrate effective and professional oral and written communication and documentation.

KRDN 2.6 Demonstrate cultural humility, awareness of personal biases and an understanding of cultural differences as they contribute to diversity, equity and inclusion

KRDN 3.6 Develop nutritionally sound meals, menus and meal plans that promote health and disease management and meet client's/patient's needs.

COURSE CREDIT HOUR INFORMATION . In the interest of providing sufficient time to accomplish the stated Course Learning Outcomes, this class meets the PLNU credit hour policy for a 2 unit class delivered over 17 weeks. Specific details about how the class meets the credit hour requirement can be provided upon request.

### **ESSENTIAL INFORMATION:**

#### **REQUIRED TEXT:**

Brown J. **Nutrition Through the Life Cycle, 7<sup>th</sup> ed.** Cengage, 2020.

Assigned readings from journal articles found in Canvas; notes on Canvas

#### **CANVAS LEARNING MANAGEMENT SYSTEM**

Please use **Chrome** as your browser.

1. Go to [canvas.pointloma.edu](https://canvas.pointloma.edu).
2. Create a shortcut or bookmark to this site.
3. Log in with your PLNU username and password.
4. All lecture notes, chapter quizzes and most assignments are located here.

### **COURSE REQUIREMENTS AND STANDARDS:**

#### **GRADING CRITERIA:**

2 midterm exams @ 100 pts. each	200 pts.
Chapter Quizzes	190 pts
Pregnancy Case Study	65 pts.
Infant Case Study	25 pts
Toddler Case Study	50 pts.
Adolescent Case Study or 24-hour recall	25 pts.
Lunch Observation report	25 pts.
Meal Plan Project	100 pts.
Reflection Paper on one Speaker	20 pts.
Discussions	30 pts.
Participation	30 pts.

Final exam (last 1/3 of material)  
Total

100 pts.  
860 pts.

**Attention SSFS Students: You are required to turn in a portfolio project as a senior. Keep any and all graded work you want to showcase.**

**GRADE DISTRIBUTION:**

GRADE	PERCENTAGE RANGE	GRADE	PERCENTAGE RANGE
A	≥ 93%	C	73-76%
A-	90-92%	C-	70-72%
B+	87-89%	D+	67-69%
B	83-86%	D	63-66%
B-	80-82%	D-	60-62%
C+	77-79%	F	≤ 59%

**EXPLANATION OF REQUIREMENTS:**

Midterm Exams:

There will be two midterm exams, worth 100 points each. They will consist of multiple choice, true/false, matching and short answer questions. Exams will cover all lecture information, and material from readings assignments in the required text and journal article reviews. No make-up exams will be allowed unless permission is received BEFORE the exam time.

Chapter Quizzes: Introductory chapter quizzes are in Canvas and due prior to class when the topic will be covered. See schedule for due dates. Please read the text!

Pregnancy, Infant, Toddler and Adolescent Case Studies:

Case studies are available on Canvas. Answer the questions and submit the study by the due dates.

Lunch Observation:

Set a time to attend one of the elementary or middle schools close to PLNU (or your home) and observe lunch service. If you have class Mon-Fri during their lunchtime, plan ahead to use one of the days off during Spring Break. Write a report summarizing the menu served, the behaviors you saw, and the general tone of lunch time. Was the meal eaten? Did the staff and teachers eat with the children? Were good table manners emphasized? Write a summary of what you observed. As a parent or teacher, what might you like to see change?

Adolescent Dietary Analysis:

1. Record everything an adolescent eats and drinks for a 24-hour period.
2. Analyze the total number of kilocalories, grams, and milligrams of protein, carbohydrates, fiber, fat, cholesterol, iron, calcium, sodium, vitamin A and C, thiamin, niacin, and riboflavin for each day using MyFitnessPal, HappyForks.com or another online diet analysis program. Include all computer nutrition analysis provided by computer program, including the foods entered into the analysis program.
3. Complete the written assignment with the form posted on Canvas. If your teen's nutrient totals were deficient, state what foods you could include to improve the nutritional quality of the child's diet.
4. Discuss the eating behaviors your teen exhibited which were typical and atypical for that age group.
5. Turn in all foods entered into the computer analysis program, nutrient totals for the day, and the written evaluation.

#### Discussions:

Over the course of the semester there will be discussion questions posted to Canvas. Reply to the question, and respond to your classmates' entries for credit. See Canvas for due dates.

#### Reflection Paper:

During the semester we will have guest speakers. You must turn in one reflection paper following a talk given by a professional in the field, relating their professional responsibilities to your plans in a career in dietetics.

#### Group Journal Article Presentation:

Throughout the semester we will be reading and discussing journal articles. In your assigned group, you will be responsible for finding an article relating to the topic covered in class, getting it to me to post for the class to read ahead of time, and leading the class in a discussion about the topic. The article must be from a referred journal within the last 3 years and relate to the life cycle topics assigned to you (pregnancy, lactation, infancy, childhood, adolescence, seniors). Your grade will be part of your participation points.

#### Final Exam:

The last exam will be given during finals week, and will cover the last section of lectures and readings, as well as journal article discussions.

#### Meal Plan Project:

The purpose of this project is to develop menus to meet a specific population's nutrition needs. If you took Community Nutrition at PLNU, you already developed a population for one of your projects, and you may use the same group here. The idea is to develop menus based on ALL of the food needed by the defined group. You must examine not only WHAT is eaten, but also consider why certain foods are eaten by this population, whether snacks are necessary, typical meal patterns, etc.

#### The paper will consist of SIX parts:

- A. Introduction: This is a description of your chosen population. The population will define some hypothetical, but homogeneous group. Examples of appropriate populations are: 12 yr. old overweight girls; 15 yr. old male soccer team; sedentary male college students, aged 19-22; pregnant women (define age) who are vegans; elderly single males (define age) living on a fixed income. There are many other possibilities. You may choose a homogeneous group of individuals, or a complex group such as a family. Disease states requiring therapeutic diets are beyond the scope of this class and MAY NOT be selected. **I highly recommend you have your population approved by your instructor.** Some points to consider in the introduction are: age, gender, body size, income, season of year that menus are being written for, region of inhabitation, ethnic origin, religious preference, education level, economic status, physical limitations and demands, nutritional needs, time and skill for food planning and preparation, and any other characteristics that might affect food habits and choices. **You must reference any facts you state such as RDA levels, energy needs calculation, meal pattern and number of meals per day as ideal. Additionally, other ideas to explore that will need referencing are likes and dislikes for the age group, cultural influences, food availability, etc.** Your textbook can be a resource, but a minimum of **two** other references are required and should be from recent (past 5 years) referred journals.
- B. Menu Plans: Plan menus for five days based on the characteristics of the group defined in the introduction. Breakfast, lunch, dinner and snacks should be planned unless another pattern is used by the selected group and explained in the introduction. Menus should

be typewritten in the following format:

Appetizer  
Entree  
Starch  
Vegetable  
Salad  
Bread  
Dessert  
Beverage

You do not need to have each item above at every meal, but when an item is offered, it should be listed in the correct order. Write menus to be appealing, appetizing and show creativity.

- C. Nutrient Analysis: Analyze one day of the menu by recording totals for the following nutrients: kcals, protein, carbohydrate, fat, iron, calcium, vitamin A, vitamin C, sodium, **and one other nutrient important to your population (ex. Folate? Fiber? Vit B-12? Saturated fat?, etc.)** You may use published analysis tables (i.e., USDA Handbook #456; Pennington, Bowes & Church), a computerized nutritional analysis program, apps, food labels, as well as other references for finding nutrient content of foods (reference your source(s)). If you choose a family, you must meet the RDA levels for the individual who requires the highest level.

**Menus do not show portion sizes. Therefore, you must include what foods and portions were entered in your analysis and include the printout with the nutrient analysis totals.**

If the analyzed menu does not meet the population's RDA levels, change the original menu to meet the RDA standards stipulated for your group. Address the rationale for the changes in the discussion section of the paper. Submit the final menu in your paper. You DO NOT need to submit calculations for the original menu, although you need to include the original menu in the appendix. **If you use a computerized nutrition analysis program for computation, you must submit all reports including those showing food items and amounts entered.**

- D. Menu Costing: Choose one of the four weekly USDA Food Cost Plans: Thrift, Low-Cost, Moderate-Cost, Liberal. State which plan you will meet in the Introduction. Calculate the daily food cost plan for the population. Choose one day's menu and cost the items served to prove that you stayed within your budgeted amount. **You must choose the same day analyzed nutritionally in Step C.** Your table should include the following information: food item (include brand name), purchase size, purchase price, amount served, cost per serving. Total the cost per serving column and compare this amount to your budgeted amount in the discussion text of the paper. Be sure to keep units of measure the same across the row. **You must meet your budget.** If you are over budget, change your menu, portion amount or brand/form purchased to recalculate the food cost, keeping in mind as you change the food item, you may also be changing the nutritional analysis.
- E. Discussion and Summary: Discuss the menu choices as they relate to the requirements defined in the introduction. Are the planned menus acceptable, feasible, attractive, and nutritionally adequate for your hypothetical group? Do they take into consideration the skills and financial resources of the defined group? Was the original menu acceptable or did you need to change it? Did the original menus meet the budget? What kind of adjustments did they require? Be sure end with a conclusion.

- F. Bibliography: You may use the number style or author, year style when referencing your paper. The bibliography page must follow the format used in *Journal of the Academy of Nutrition and Dietetics*.

NOTE: The meal plan project is a major course requirement. FAILURE TO COMPLETE THE PROJECT AUTOMATICALLY LOWERS THE FINAL COURSE GRADE BY AT LEAST ONE LETTER GRADE.

PLAGIARISM OF ANY FORM WILL NOT BE TOLERATED IN THIS CLASS!

## DAILY SCHEDULE:

### TENTATIVE CLASS SCHEDULE

1) 1/11 & 1/12	Lifecycle Introduction (Quiz 1 due 1/11) Preconception (Q 2 + 3 due 1/12)	Chp 1 Chp 2+3	
2) <b>1/17</b> & 1/19	<b>Holiday</b> / Preconception; starting Pregnancy	Chp 4+5	1
3) 1/24 & 1/26	Speaker - Amy Ogle, MS, RD, Co-author, Before Your Pregnancy / Pregnancy Q 4 + 5 due 1/24; <b>Pregnancy discussion due 1/26</b>		
4) <b>1/31</b> & 2/02	Pregnancy Journal Article & Case Studies / Lactation <b>Pregnancy Case Study due (1/31) Q 6 + 7 due 2/02</b>	Chp 6+7	
5) 2/07 & 2/09	Lactation / Lactation Case Studies & Journal Articles		
6) <b>2/14</b> & 2/16	<b>EXAM 1/</b> Infant Nutrition (Q 8 + 9 due 2/16)	Chp. 8+9	
7) 2/21 & <b>2/23</b>	Infant /Speaker - NICU dietitian <b>(Infant Case Study due 2/23)</b>		
8) 2/28 & <b>3/02</b>	Infancy Case Studies & Journal Articles /Toddler Nutrition Q 10 + 11 due 3/2; <b>Discussion post on ES Webpage due 3/02</b>	Chp. 10+11	
9) <b>3/07</b> & <b>3/09</b>	<b>Spring Break</b>		
10) <b>3/14</b> & 3/16	Toddler Journal Article & Case Studies/Child Nutrition <b>Toddler Case Study due (3/14) Q 12 + 13 due 3/16</b>	Chp 12+13	
11) <b>3/21</b> & <b>3/23</b>	Child Nutrition / Child Case Studies & Journal Articles <b>Allergy discussion due 3/21; Lunch Observation Report Due 3/23</b>		
12) 3/28 & <b>3/30</b>	Special Needs / <b>EXAM 2</b>		
13) 4/04 & 4/06	Work on Meal Project / Adolescent Nutrition Q 14 + 15 due 4/06	Chp 14 + 15	
14) 4/11 & <b>4/13</b>	Adol. Nutrition / Adol. Journal Article & Case Studies <b>MEAL PLAN PROJECT DUE (4/13)</b>	Chp 14+15	
15) <b>4/18</b> & <b>4/20</b>	<b>Holiday</b> / Nutrition for Seniors <b>Adol 24-hr recall or case study (due 4/20)</b>		

1) 4/25 & 4/27

Speaker: Sammi Montag, RD Eating Disorders / Movie Chp. 18,19  
(Q 18 + 19 due 4/25) **Reflection Paper Due (4/27)**

5/06

**Exam 3 Friday, 7:30 am – 10:00 am**

## **POLICIES AND PROCEDURES:**

### **FCS DEPARTMENT POLICIES AND PROCEDURES**

*Note: Failure to abide by the rules will negatively affect your grade.*

1. **CLASS ATTENDANCE:** Class will begin promptly. *Class attendance is essential for success in this class.* Students are expected to work efficiently and respectfully.
2. **ELECTRONICS IN CLASSROOM:** NO CELL PHONES or IPODS or similar electronics. Turn them off and keep them off. NO TEXTING, NO PHONING. They are inappropriate in the classroom. Using them in class may result in having them moved to the front of the classroom and made available for pickup only after the class meeting concludes. Repeat offenders will lose points.
3. **EMAIL:** Check PLNU email regularly for any new postings or communications from the instructor. **READ THEM!**
4. **LATE POLICY:** Due dates are enforced rigorously. 25% deducted for each day late.
5. **EXAMS:** No makeup exams or quizzes given. Emergencies processed on an individual basis.
6. **EMERGENCIES:** Everyone has them. Be responsible, communicate promptly and privately, tell the truth, don't take advantage of the instructor's goodwill. Each will be evaluated on its merits. Documentation may be requested.

## **COURSE OUTLINE:**

- I. Nutrition Review and Lifecycle Basics
- II. Preconception Nutrition
  - A. Nutrition Related Disruptions in Fertility
  - B. Conditions and Interventions
- III. Nutrition during Pregnancy
  - A. Status of Pregnancy Outcomes
  - B. Physiology of Pregnancy
  - C. Embryonic and Fetal Growth and Development
  - D. Fetal Origins Hypothesis
  - E. Pregnancy Weight Gain
  - F. Nutrition and Course/Outcome of Pregnancy
    - i. Healthy Diets for Pregnancy
    - ii. Exercise
    - iii. Food Safety Issues
    - iv. Common Health Problems
  - G. Conditions and Interventions
    - i. Hypertension
    - ii. Diabetes
    - iii. Multifetal
    - iv. HIV/AIDS
    - v. Eating Disorders
    - vi. Fetal Alcohol
    - vii. Adolescent Pregnancy

- IV. Nutrition during Lactation
  - A. Lactation Physiology
  - B. Human Milk Composition
  - C. Benefits of Breastfeeding
  - D. Breast Milk Supply and Demand
  - E. Breastfeeding Infant
  - F. Maternal Diet
    - i. Energy Balance
  - G. Common Breastfeeding Conditions
- V. Infant Nutrition
  - A. Assessing Newborn Health
  - B. Infant Development
  - C. Energy and Nutrient Needs
  - D. Early Infancy Feeding
  - E. Development of Infant Feeding Skill
  - F. Common Nutritional Problems and Concerns
- VI. Toddler and Preschooler Nutrition
  - A. Growth and Development
  - B. Physiological and Cognitive Development
  - C. Energy and Nutrient Needs
  - D. Common Nutritional Problems
  - E. Preventing Nutrition-related Disorders
  - F. Diet and Activity Recommendations
- VII. Child Nutrition
  - A. Growth and Development
  - B. Physiological and Cognitive Development
  - C. Energy and Nutrient Needs
  - D. Common Nutritional Problems
  - E. Preventing Nutrition-related Disorders
  - F. Dietary and Exercise Recommendations
- IX. Adolescent Nutrition
  - A. Growth and Development
  - B. Psychosocial Development
  - C. Health and Eating-related Behaviors
  - D. Energy and Nutrient Requirements
  - E. Promoting Healthy Behaviors
  - F. Conditions and Interventions
    - i. Overweight and Obesity
    - ii. Supplement Use
    - iii. Adolescent Athletes
    - iv. Disordered Eating
- X. Nutrition and Older Adults
  - A. Statistics of Aging Population
  - B. Theories of Aging
  - C. Physiological Changes
  - D. Dietary Recommendations
  - E. Nutrient Recommendations
  - F. Physical Activity Recommendations
  - G. Conditions and Interventions
    - i. Heart Disease



- ii. Stroke
- iii. Cancer
- iv. Diabetes
- v. Obesity
- vi. Osteoporosis
- vii. GI Diseases
- viii. B12 Deficiency
- ix. Inflammatory Diseases
- x. Cognitive Disorders
- xi. Low Body Weight/Underweight
- xii. Dehydration

## **STATE AUTHORIZATION☼**

State authorization is a formal determination by a state that Point Loma Nazarene University is approved to conduct activities regulated by that state. In certain states outside California, Point Loma Nazarene University is not authorized to enroll online (distance education) students. If a student moves to another state after admission to the program and/or enrollment in an online course, continuation within the program and/or course will depend on whether Point Loma Nazarene University is authorized to offer distance education courses in that state. It is the student's responsibility to notify the institution of any change in his or her physical location. Refer to the map on [State Authorization](#) to view which states allow online (distance education) outside of California.

## **PLNU COPYRIGHT POLICY ☼**

Point Loma Nazarene University, as a non-profit educational institution, is entitled by law to use materials protected by the US Copyright Act for classroom education. Any use of those materials outside the class may violate the law.

## **PLNU ACADEMIC HONESTY POLICY☼**

Students should demonstrate academic honesty by doing original work and by giving appropriate credit to the ideas of others. Academic dishonesty is the act of presenting information, ideas, and/or concepts as one's own when in reality they are the results of another person's creativity and effort. A faculty member who believes a situation involving academic dishonesty has been detected may assign a failing grade for that assignment or examination, or, depending on the seriousness of the offense, for the course. Faculty should follow and students may appeal using the procedure in the university Catalog. See [Academic Policies](#) for definitions of kinds of academic dishonesty and for further policy information.

## **PLNU ACADEMIC ACCOMMODATIONS POLICY☼**

PLNU is committed to providing equal opportunity for participation in all its programs, services, and activities. Students with disabilities may request course-related accommodations by contacting the Educational Access Center (EAC), located in the Bond Academic Center ([EAC@pointloma.edu](mailto:EAC@pointloma.edu) or 619-849-2486). Once a student's eligibility for an accommodation has been determined, the EAC will issue an academic accommodation plan ("AP") to all faculty who teach courses in which the student is enrolled each semester.

PLNU highly recommends that students speak with their professors during the first two weeks of each semester/term about the implementation of their AP in that particular course and/or if they do not wish to utilize some or all of the elements of their AP in that course.

Students who need accommodations for a disability should contact the EAC as early as possible (i.e., ideally before the beginning of the semester) to assure appropriate accommodations can be provided. It is the student's responsibility to make the first contact with the EAC.

### **PLNU ATTENDANCE AND PARTICIPATION POLICY★**

Regular and punctual attendance at all class sessions is considered essential to optimum academic achievement. If the student is absent for more than 10 percent of class sessions, the faculty member will issue a written warning of de-enrollment. If the absences exceed 20 percent, the student may be de-enrolled without notice until the university drop date or, after that date, receive the appropriate grade for their work and participation.

### **SPIRITUAL CARE**

Please be aware PLNU strives to be a place where you grow as whole persons. To this end, we provide resources for our students to encounter God and grow in their Christian faith.

If students have questions, a desire to meet with the chaplain or have prayer requests you can contact the [Office of Spiritual Development](#).