PLNU forward

Department of Sociology, Social Work and Family Sciences

NUT 3035 Nutrition Research through the Lifecycle

3 units

Spring 2020

Meeting days: Mon/Wed	**Instructor title and name:** Prof Cindy Swann, MS, RD, CDE
Meeting times: 8:15-9:30 am	**Phone:** 619-849-2351
Meeting location: Evans Hall 121	**E-mail:** cindyswann@pointloma.edu
Final Exam: Mon., 5/04, 8:00-10:00	**Office location and hours:** Evans 134 Mon/ Wed 1:30-2:20; Tues/Thurs 2:00-2:25 pm 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. Two (2) 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.

FCS 335 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.

American Dietetics Association's Foundation Knowledge and Skills for Entry-Level Didactic Program in Dietetics (DPD) Based on 2017 ERAS:

KRDN 1.1 Demonstrate how to locate, interpret, evaluate and use professional literature to make ethical, evidence-based practice decisions.
KRDN 1.2 Use 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.
5.3 b. Learning activities must prepare students to implement the Nutrition Care Process with various populations and diverse cultures, including infants, children, adolescents, adults, pregnant/lactating females and older adults.

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 Though the Life Cycle.** 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.
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.
5.

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)	100 pts.
Total	860 pts.

Attention FCS 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 or an 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 final exam 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

1/14 & 1/15	Lifecycle Introduction (Quiz 1 due 1/15) Preconception (Q 2 + 3 due 1/22)	Chp 1 Chp 2+3
1/20 & 1/22	**Holiday** / Preconception; starting Pregnancy	Chp 4+5
1/27 & 1/29	Speaker **-** Amy Ogle, MS, RD, Co-author, Before Your Pregnancy / Pregnancy Pregnancy discussion due 1/27; Q 4 + 5 due 1/29	
2/03 & 2/05	Pregnancy Journal Article & Case Studies / Lactation **Pregnancy Case Study due (2/03) Q 6 + 7 due 2/05**	Chp 6+7
2/10 & 2/12	Lactation / Lactation Case Studies & Journal Articles	
2/17 & 2/19	**EXAM 1**/ Infant Nutrition (Q 8 + 9 due 2/19)	Chp. 8+9
2/24 & **2/26**	Infant /Speaker - NICU dietitian **(Infant Case Study due 2/26)**	
3/02 & **3/04**	Infancy Case Studies & Journal Articles /Toddler Nutrition Q 10 + 11 due 3/2; **Discussion post on ES Webpage due 3/04**	Chp. 10+11
3/09 & 3/11	**Spring Break**	
3/16 & 3/18	Toddler Journal Article & Case Studies/Child Nutrition **Toddler Case Study due (3/16)** Q 12 + 13 due 3/18	Chp 12+13
3/23 & 3/25	Child Nutrition / Child Case Studies & Journal Articles **Allergy discussion due 3/23; Lunch Observation Report Due 3/25**	
3/30 & 4/01	Speaker?/ Special Needs	
4/06 & 4/08	**EXAM 2** / Adolescent Nutrition Q 14 + 15 due 4/08	Chp 14+15
4/13 & 4/15	**Holiday** / Adolescence Journal Article & Case Studies **MEAL PLAN PROJECT DUE (4/15)**	
4/20 & 4/22	Speaker: Sammi Montag, RD Eating Disorders **(Adol 24-hr recall or case study due 4/20)** / Nutrition for Seniors (Q 18 + 19 due 4/22)	Chp. 18,19

4/27 & **4/29**	Movie **/** Catch-up **Reflection Paper Due (4/29)**
5/04	Exam 3 **Monday, 8:00 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

Undergraduate Syllabus Notification Page

FINAL EXAMINATION POLICY

Successful completion of this class requires taking the final examination **on its scheduled day**. The final examination schedule is posted on the Class Schedules site. No requests for early examinations or alternative days will be approved.

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

If you have a diagnosed disability, please contact PLNU's Disability Resource Center (DRC) within the first two weeks of class to demonstrate need and to register for accommodation by phone at 619-849-2486 or by e-mail at DRC@pointloma.edu. See Disability Resource Center for additional information.

PLNU ATTENDANCE AND PARTICIPATION POLICY

Regular and punctual attendance at all classes is considered essential to optimum academic achievement. If the student is absent from more than 10 percent of class meetings, the faculty member can file a written report which may result in 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. See Academic Policies in the Undergraduate Academic Catalog.

Tutorial Center is closed from 9:30-10:30 am, Monday, Wednesday and Friday, and 5:00-6:00 pm every evening. Tutoring is available by appointment only, and appointments must be made at least one day in advance. Appointments may be arranged in person at the Tutorial Center, over the phone at (619) 849-2593, or via email at TutorialServices@pointloma.edu.