SYLLABUS
11:709:404 Advanced Nutrition: Clinical Research Practicum
Fall 2023 Tuesdays 8:30-9:50 AM
216A Davison Hall (DAV 216A)

Canvas Site: 11:709:404:01 ADV NUTR CLIN RES

Instructor: Joshua W. Miller, PhD
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Office Hours: Tuesdays 4:00-5:00 PM or by appointment (in-person or via Zoom)

Overview: This course is designed as a co-requisite to NUTR 400 - Advanced Nutrition: Macronutrients (11:709:400) and is intended primarily for dietetics students. Building on fundamental aspects of nutritional biochemistry and physiology covered in 11:709:400, this course focuses on critical review of evidence-based literature that informs nutrition and dietetics practice guidelines. Emphasis is on understanding the strengths and limitations of different epidemiological and clinical study designs and interpretation of empirical research findings from such studies in the context of biological plausibility.

Course Objectives/Learning Goals:
At the conclusion of this course, the students will be able to:

1. Identify credible sources of current evidence and nutrition information on specific disease states using the Academy of Nutrition & Dietetics Evidence Analysis Library.

2. Connect empirical research findings to biochemical and physiological mechanisms that allow for interpretation of such findings in the context of biological plausibility.

3. Identify and understand the strengths and limitations of clinical and epidemiological study designs, including ecological, cross-sectional, cohort, prospective, retrospective, and intervention studies (including randomized controlled trials), as well as meta-analyses in the context of macronutrients and health.

4. Understand how to interpret and rate the strength of empirical evidence that derives from such studies.

Course Meetings: This is a 1 credit course that will meet once per week for 10 weeks (80 minutes per class). See course schedule below.

Course Materials: Readings will be provided as pdf documents through the Canvas site and will consist of review articles and primary research articles. All reading assignments will be assigned 1 week in advance and expected to be completed before the next course meeting. Lecture and discussion during the next course meeting will focus on the assigned readings.

Online Quizzes: There will be quizzes assigned online through the Canvas site (7 quizzes each worth 10 points, for a total of 70 points). These quizzes will focus on testing and reinforcing terminology, basic concepts, and key aspects of assigned readings.

Exams: There will be no exams in this course.

Written Assignment: A written assignment (worth 60 points) will be due on the second to last class (**Tues. Nov. 28**). This assignment will consist of a series of prompts focused on the key aspects of a research article that inform the interpretation of that study. These prompts will emphasize the main learning goals of the course. Written assignments received on time (by end of class on Tues. Nov. 28) will be graded and returned to the students 1 week before the end of the semester. Students wishing to revise their written assignment based on the instructor's comments may do so. The due date for revised assignments will be **Tues. Dec. 12**.

Attendance and Class Participation: Discussion and class participation will be important components of the course. Classes will not be recorded. Attendance and class participation will be worth 2 points per class for a total of 20 points.

Grading: Grades will be calculated on a point system.

Quizzes	70 points
Written Assignment	60 points
Attendance/Class Participation	20 points
Total Points	150 points

Final Grade Allocation: There will be NO negotiating of grades. Final grade ranges are:

A = 91-100% (136-150 points)	C = 71-75% (106-113 points)
B+ = 86-90% (129-135 points)	D = 61-70% (91-105 points)
B = 81-85% (121-134 points)	F <61% (0-90 points)
C+ = 76-80% (114-120 points)	

Academic Integrity: The principles of academic integrity require that a student:

- make sure that all work submitted in a course, academic research, or other activity is the student's own and created without the aid of impermissible technologies, materials, or collaborations.
- properly acknowledge and cite all use of the ideas, results, images, or words of others.
- properly acknowledge all contributors to a given piece of work.
- obtain all data or results by ethical means and report them accurately without suppressing any results inconsistent with the student's interpretation or conclusions.
- treat all other students ethically, respecting their integrity and right to pursue their educational goals without interference. This principle requires that a student neither facilitate academic dishonesty by others nor obstruct their academic progress.
- uphold the ethical standards and professional code of conduct in the field for which the student is preparing.

Please read the full Rutgers University Academic Integrity Policy, effective June 2, 2020, at https://academicintegrity.rutgers.edu/

Course Schedule: The course consists of 10 class meetings of 80 minutes.

Week	Topics
#1 Sept. 5	Course Overview; Review of Clinical and Epidemiological Study Designs; Determining Causality; Introduction to the AND Evidence Analysis Library
#2 Sept. 12	Fiber/Microbiome/Short-Chain Fatty Acids • Quiz #1 Due
#3 Sept. 19	**No Class** (Use time to study for Nutr 400 Exam #1)
#4 Sept. 26	**No Class** (400 Exam 1 Week)
#5 Oct. 3	Glucose/Sodium/Rehydration • Quiz #2 Due
#6 Oct. 10	Protein Requirements in Aging/Sarcopenia • Quiz #3 Due
#7 Oct. 17	**No Class** (Nutr 400 Exam #2)
#8 Oct. 24	Written Assignment Explained and Assigned
#9 Oct. 31	Fat Absorption/Cystic Fibrosis • Quiz #4 Due
#10 Nov. 7	Fatty Acid Oxidation/MCAD Deficiency • Quiz #5 Due
#11 Nov. 14	Ketogenic diets • Quiz #6 Due
#12 Nov. 21	**No Class (Thursday Schedule)** (Nutr 400 Exam #3)
#13 Nov. 28	Protein/Phenylketonuria • Quiz #7 Due • Written Assignment Due
#14 Dec. 5	Special Topics/Course Summary Graded Written Assignment Returned/Opportunity to Revise & Resubmit
#15 Dec. 12	**No Class** • Written Assignment Revisions Due

2022 Core Knowledge for the RDN (KRDN) – Standards for the Didactic Programs in Dietetics: Rutgers University Department of Nutritional Sciences undergraduate Didactic Program in Dietetics is accredited by the Accreditation Council for Education in Nutrition and Dietetics (ACEND) of the Academy of Nutrition and Dietetics (AND). The following ACEND Core Knowledge aptitudes are included within the curriculum of this course:

KRDN 1.1: Demonstrate how to locate, interpret, evaluate and use professional literature to make ethical, evidence-based practice decisions (i.e., written summary of research article assignment).

KRDN 1.2: Select and use appropriate current information technologies to locate and apply evidence-based guidelines and protocols (i.e., Evidence Analysis Library, quizzes).
KRDN 1.3: Apply critical thinking skills (i.e., written summary of research article assignment).

All KRDNs will be met through reading and interpreting research articles, and judging the strength of empirical evidence in the context of biological plausibility.

Absence Policy: Students are expected to attend all classes; if you expect to miss one or two classes, please use the University absence reporting website https://sims.rutgers.edu/ssra/ to indicate the date and reason for your absence. An email is automatically sent to me.

Accommodations for Students with Disabilities: https://ods.rutgers.edu/

Student Wellness Services: http://health.rutgers.edu/