

Introduction to Applied Nutrition Research Syllabus

Introduction to Applied Nutrition Research (3 credits)

16:709:503

3 credits

Place/Time: TBD

CONTACT INFORMATION:

Instructor(s): Virginia Quick, PhD, RD

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Virtual Office Hours: By appointment

COURSE DESCRIPTION:

This course emphasizes skills in the conduct and interpretation of research. Emphasis given to study design, instrumentation, analysis, and ethical issues.

COURSE WEBSITE, RESOURCES AND MATERIALS:

- Selected readings from articles posted on the Canvas course website and the text book below.
 - Elaine R. Monsen & Linda Van Horn. *Research Successful Approaches, Fourth Edition*. (2019) Academy of Nutrition and Dietetics. ISBN #9780880919463
- **Required textbook:** Karen Eich Drummond & Alison Murphy-Reyes. *Nutrition Research: Concepts & Applications*. (2018) Jones & Bartlett Learning, LLC. ISBN #9781284101539

STUDENT LEARNING OUTCOMES:

At the end of this course, students will be able to:

1. Discuss research ethics.
2. Describe key research methods associated with quantitative and qualitative research in applied nutrition and dietetics.
3. Identify characteristics of high-quality research studies.
4. Conduct and write reviews of literature reflecting current research consensus and future directions.
5. Describe common problems (validity, reliability, ethical concerns) associated with collecting research data, interpreting and reporting findings, and strategies for effectively managing these problems.
6. Distinguish between and among common analytical tests and assumptions that underlie them.
7. Plan a high-quality thesis/dissertation proposal that uses appropriate research methods, ethical procedures, and data analysis procedures.
8. Present a thesis/dissertation proposal and demonstrate how it uses appropriate research methods, ethical procedures, and data analysis procedures.
9. Evaluate and apply evidence-based and emerging scientific research to applied nutrition and dietetics practice (evidence-based practice).
10. Develop research presentation skills.

2017 Core Competencies for the RDN (CRDN) – Standards for Dietetic Internship Programs:

The Dietetic Internship program in the Department of Nutritional Sciences Graduate School 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 Competencies are included within the curriculum of this course with examples of how they are addressed:

CRDN	Assignment(s)
CRDN 1.2: Apply evidence-based guidelines, systematic reviews and scientific	<ul style="list-style-type: none"> • Review of Literature (SLO Outcome) • Research Study Designs • Research Proposal • Presentation
CRDN 1.3 Justify programs, products, services and care using appropriate evidence or data	<ul style="list-style-type: none"> • Research Proposal • Presentation
CRDN 1.4 Evaluate emerging research for application in nutrition and dietetics practice	<ul style="list-style-type: none"> • Review of Literature • Research Proposal
CRDN 1.5: Conduct projects using appropriate research methods, ethical procedures and data analysis	<ul style="list-style-type: none"> • Review of Literature • Research Study Designs • Research Proposal • Presentation • IRB Training Module
CRDN 1.6 Incorporate critical-thinking skills in overall practice	<ul style="list-style-type: none"> • Advisor Planning Meeting • Review of Literature • Research Study Designs • Manuscript • Presentation
CRDN 2.2: Demonstrate professional writing skills in preparing professional communications	<ul style="list-style-type: none"> • Review of Literature • Research Study Designs • Research Proposal
CRDN 2.3: Demonstrate active participation, teamwork, and contributions in group settings	<ul style="list-style-type: none"> • Review of Literature (peer review) • Presentations (peer review)
CRDN 2.7 Apply leadership skills to achieve desired outcomes	<ul style="list-style-type: none"> • Personal Goal Setting and Analysis • Advisor Planning Meeting
CRDN 2.8 Demonstrate negotiation skills	<ul style="list-style-type: none"> • Advisor Planning Meeting
CRDN 2.10 Demonstrate professional attributes in all areas of practice	<ul style="list-style-type: none"> • Demeanor in all professional interactions • Advisor Planning Meeting • Presentation
CRDN 2.11 Show cultural competency/sensitivity in interactions with clients, colleagues, and staff	<ul style="list-style-type: none"> • Demeanor in all professional interactions
CRDN 2.12 Perform self-assessment and develop goals for self-improvement throughout the program	<ul style="list-style-type: none"> • Personal Goal Setting and Analysis
CRDN 3.4: Design, implement and evaluate presentations to a target audience	<ul style="list-style-type: none"> • Presentation
CRDN 3.8 Deliver respectful, science-based answers to client questions concerning emerging trends	<ul style="list-style-type: none"> • Presentation

CRDN 4.4 Apply current nutrition informatics to develop, store, retrieve and disseminate information and data	<ul style="list-style-type: none"> • Review of Literature • Presentation
CRDN 4.10 Analyze risk in nutrition and dietetics practice	<ul style="list-style-type: none"> • Research Study Design
PCC 3 Apply research principles and methods to examine current problems in nutrition and disease.	<ul style="list-style-type: none"> • Review of Literature • Research Study Design • Research Proposal

ASSIGNMENTS/RESPONSIBILITIES & ASSESSMENT:

The course instructor reserves the right to modify the syllabus and assignments to take advantage of emerging learning opportunities and/or student learning needs and achievements.

Attendance: Attendance and active participation is expected. It is your responsibility to keep up to date with the course content.

Missed Exams & Late Work: There will be no make-up exams. If you cannot take an exam, you must contact the instruction a minimum of 1 week in advance. If you miss an exam for unforeseen circumstances (each situation will be evaluated on a case-by-case basis) you must contact the instructor within 8 hours. Assignments will be assessed a penalty for being late. There will be a 10% penalty per day (including weekends) turned in late. Assignments more than 5 days late will not be accepted. Each assignment will specify deadlines and the method and form for turning in assignments.

Exams: There is one mid-term exam. Format and time(s) are TBD.

Assignments (all assignments should be uploaded onto the Canvas website before the given due date)

Personal Goal Setting and Analysis Assignment: Complete this self-evaluation of achievement in obtaining identified goals during the course and submit to the DI Director (via Canvas). **Assessment:** 10 pts each for initial goals, midpoint, final. **CRDN** addressed: 2.7, 2.12

Planning Meeting for Research Paper: Set up the first meeting with your research advisor to discuss your thesis and the advisor’s expectations for you. In preparation for the meeting, create a list of 5 or more questions/points to explore with your research advisor. After the first meeting, you should have a clear idea of the research question, topic, target audience, proposed analyses, and timeline for the project. After this first meeting, complete the form below and share it with your research advisor for feedback. **Assessment** is based on completeness of the Planning Meeting Thesis Assignment form; assignment is graded for completeness of the written planning meeting for thesis assignment (developing and answering a minimum of 5 questions pertinent to the meeting (6 points); proposed research question(s) (2 points); sample description (2 points); documenting key topics to address in the literature review (5 points), proposed analytical plan (5 points), variables of interest (3 points) and timeline for the project (2 points). Total possible points = 25. **CRDNs** addressed: 1.6, 2.7, 2.8, 2.10.

IRB Training Module: Need to complete the online IRB Training Module. The certification lasts for three years and is required for conducting research at Rutgers. The CITI training module and detailed instructions on how to get started can be found at: <https://orra.rutgers.edu/citi>. **Assessment** is based on passing and receiving the CITI certificate. Total possible points = 50. **CRDNs** addressed: 1.5.

Review of Literature: Complete a literature review and prepare a 10 to 15 page paper (Times New Roman style, font size 12, double spaced). Students are strongly advised to consult with his or her research advisor to choose an appropriate topic for the research paper prior to completing the review of literature. Students must conduct a systematic literature review using MeSH terms in PubMed.

Assessment is based on completeness and accuracy of the literature review paper (assessed using the grading rubric for literature review). Criteria on the Review of Literature Grading Rubric includes the following: introducing the idea or problem statement (18 points), flow of the review in body (18 points), coverage of content (18 points), clarity of writing and writing technique (18 points), concluding statement and synthesis of ideas (18 points), and citations/references formatting (10 points). Total possible points = 100. Letter grade of “B” is equivalent to 80 points. **CRDNs** addressed: 1.2, 1.4, 1.5, 1.6, 2.2, 2.3, 4.4; PCC 3.

Research Study Design: You will be tasked to design a research study using a study design of your interest (case-control, intervention, cohort). The topic of your research project can be used or a different one can be selected in designing the research study. Be sure to cover **who, what, where and how** the research will be done. Include a section that describes how the study adheres to the ethical treatment of human subjects and describe the risks and benefits of the study to the field and participants. **Assessment** is based on the Criteria on the Research Study Design Rubrics which include these criteria (statement of problem, research objective(s), and hypothesis; types of variables and how they will be measured; methods and research ethics. Total possible points = 100. **CRDNs** addressed: 1.2, 1.5, 1.6, 2.2, 4.10; PCC 3.

Research Proposal (Thesis Chapters 1 thru 3): The research proposal will be a completed version of all three chapters of your thesis using the required written format and outline specified by School of Graduate Studies: <https://gsnb.rutgers.edu/academics/electronic-thesis-and-dissertation-style-guide>. Thus, you will need to include the Title page, Abstract (place holder), Acknowledgements (place holder), Table of Contents, List of Tables (place holder), and List of Figures (place holder), Chapters 1, 2 & 3, and Bibliography (reference list). A “place holder” indicates you will have a dedicated page but it will be left incomplete (blank) upon submission.

Using your literature review, write the Introduction (Chapter 1) of your thesis. The Introduction will be about ~2 to 3 pages (double-spaced) and build a strong case for your research study. The last paragraph of the Introduction in Chapter 1 should explicitly describe the purpose of the research planned (i.e., your research question(s) and hypotheses.

A finalized version of your literature review will be Chapter 2 of your thesis. Make sure the end of your Chapter 2 with the literature review has a Conclusion/Summary paragraph that really sells to the reader the importance for your research study.

The methods will be your third chapter of your thesis. The methods section should describe in detail recruitment of participants, data collection procedures/instruments (e.g., type of data, how it will be collected, where it will be collected), and a proposed plan with how the data will be analyzed (data analysis section). Make sure to use the appropriate reference style for both in-text and reference list as preferred by your Graduate Advisor. Please work with your Graduate Advisor in crafting the three chapters of your thesis. Grading will be based mainly on the content of Chapters 1 & 3, as well as the ability to follow the formatting and outlining guidelines by the School of Graduate Studies. Use a reference manager such as Endnote or RefWorks for all references in the paper. Reference manager software is free for students and can be downloaded from Rutgers Library website. **Assessment** is based the Research Proposal Grading Rubric. Criteria on grading rubric includes the following: title page and

table of contents (20 points), introduction (20 points), methods (20 points), organization/structural development of research paper (20 points), mechanics and word usage (10 points), citations (5 points), references (5 points). Total possible points = 100. **CRDNs** addressed: 1.2, 1.3, 1.4, 1.5, 1.6, 2.2; PCC 3.

Professional, Ethical, and Academic Integrity Behaviors Self-Evaluation: At the end of the course, Dr. Quick will be assessing your professional behaviors with regards to your participation in class/interaction with peers and presentation of your research proposal. Total possible points = 100.

Standards of Performance and Evaluation

Student performance in this course will be based upon cumulative point totals from each of the following:

Assessment tools	Point Value	My Grades (<i>track status</i>)
1. Personal Goal Setting/Analysis	(30)	_____
2. Rutgers IRB Certification	(50)	_____
3. Research Advisor Meeting Plan	(25)	_____
4. Review of Literature	(100)	_____
5. Study Design	(100)	_____
6. Midterm Exam	(100)	_____
7. Research Proposal	(100)	_____
8. Professional, Ethical, and Academic Integrity Behaviors	(100)	_____

Graduate Grading Scale:

GRADE SCALE	93-100	90-92	87-89	80-86	77-79	70-76	<70
% OF POINTS	A	A-	B+	B	C+	C	F

ACCOMMODATIONS for Students with disabilities

Please follow the procedures outlined at <https://ods.rutgers.edu/students/registration-form>. Full policies and procedures are at <https://ods.rutgers.edu/>

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.

ACADEMIC INTEGRITY

The university's policy on Academic Integrity is available at <http://academicintegrity.rutgers.edu/academic-integrity-policy>. The principles of academic integrity require that a student:

1. properly acknowledge and cite all use of the ideas, results, or words of others.
2. properly acknowledge all contributors to a given piece of work.
3. make sure that all work submitted as his or her own in a course or other academic activity is produced without the aid of impermissible materials or impermissible collaboration.
4. obtain all data or results by ethical means and report them accurately without suppressing any results inconsistent with his or her interpretation or conclusions.
5. treat all other students in an ethical manner, respecting their integrity and right to pursue their educational goals without interference. This requires that a student neither facilitate academic dishonesty by others nor obstruct their academic progress.
6. uphold the canons of the ethical or professional code of the profession for which he or she is preparing.

Adherence to these principles is necessary in order to ensure that

1. everyone is given proper credit for his or her ideas, words, results, and other scholarly accomplishments.
2. all student work is fairly evaluated and no student has an inappropriate advantage over others.
3. the academic and ethical development of all students is fostered.
4. the reputation of the University for integrity in its teaching, research, and scholarship is maintained and enhanced.

Failure to uphold these principles of academic integrity threatens both the reputation of the University and the value of the degrees awarded to its students. Every member of the University community therefore bears a responsibility for ensuring that the highest standards of academic integrity are upheld.

STUDENT WELLNESS SERVICES

Just In Case Web App <http://codu.co/cee05e>

Access helpful mental health information and resources for yourself or a friend in a mental health crisis on your smartphone or tablet and easily contact CAPS or RUPD.

Counseling, ADAP & Psychiatric Services (CAPS)

(848) 932-7884 / 17 Senior Street, New Brunswick, NJ 08901/ www.rhscaps.rutgers.edu/

CAPS is a University mental health support service that includes counseling, alcohol and other drug assistance, and psychiatric services staffed by a team of professional within Rutgers Health services to support students' efforts to succeed at Rutgers University. CAPS offers a variety of services that include: individual therapy, group therapy and workshops, crisis intervention, referral to specialists in the community and consultation and collaboration with campus partners.

Violence Prevention & Victim Assistance (VPVA)

(848) 932-1181 / 3 Bartlett Street, New Brunswick, NJ 08901 / www.vpva.rutgers.edu/

The Office for Violence Prevention and Victim Assistance provides confidential crisis intervention, counseling and advocacy for victims of sexual and relationship violence and stalking to students, staff and faculty. To reach staff during office hours when the university is open or to reach an advocate after hours, call 848-932-1181.

Disability Services

(848) 445-6800 / Lucy Stone Hall, Suite A145, Livingston Campus, 54 Joyce Kilmer Avenue, Piscataway, NJ 08854 / <https://ods.rutgers.edu/>

Rutgers University welcomes students with disabilities into all of the University's educational programs. In order to receive consideration for reasonable accommodations, a student with a disability must contact the appropriate disability services office at the campus where you are officially enrolled, participate in an intake interview, and provide documentation:

<https://ods.rutgers.edu/students/documentation-guidelines>. If the documentation supports your request for reasonable accommodations, your campus's disability services office will provide you with a Letter of Accommodations. Please share this letter with your instructors and discuss the accommodations with them as early in your courses as possible. To begin this process, please complete the Registration form on the ODS web site at: <https://ods.rutgers.edu/students/registration-form>.

Scarlet Listeners

(732) 247-5555 / <http://www.scarletlisteners.com/>

Free and confidential peer counseling and referral hotline, providing a comforting and supportive safe space.