

**Department of Kinesiology**  
**EXSS 320 – Research Design in Exercise Science**

Academic Credit: 3  
Location:

Prerequisites: C or better in STAT 201 and 201L  
Time/Day(s):

Professor:  
Office Hours:

Office:  
Office Phone:  
E-mail:

**Course Description:**

An overview of the research process in exercise and sport science. Emphasis is given to experimental design, data gathering techniques, analysis and interpretation of qualitative and quantitative research methods, and research writing in the area of exercise and sport science.

**Student Learning Outcomes:**

After successful completion of this course, students will be able to:

1. Explain the importance of research and research design in advancing the areas of exercise science and other health-related fields
2. Critically evaluate and critique samples of published research in the field of exercise and sport science
3. Demonstrate an understanding of measurements including validity, reliability, and objectivity of a measurement
4. Understand and interpret basic statistical results and explain the relevant implications of the statistical findings
5. Explain the different research methods and data acquisition methods utilized in both basic and applied research in exercise science and other health-related fields
6. Define common research designs used in exercise science, and health-related professions
7. Demonstrate competency in correctly using electronic search engines and databases to gather professional literature
8. Develop a research question and design an experiment using appropriate research methods
9. Explain the significance and importance of abiding by the accepted ethical standards when performing research in any field

**Assessment of Learning:**

The student's final grade will be based on the cumulative total number of points from performance on tests, assignments, and research proposal presentation.

	<u>Percentage of Total</u>
Exam 1	20%
Exam 2	20%
Exam 3	20%
Assignments	
CITI IRB Training	5%
Article Critiques	15%
Research Proposal Presentation	20%

**Grading Scale:**

A = 90-100%	B+ = 87-89%
B = 80-86%	C+ = 77-79%
C = 70-76%	D+ = 67-69%
D = 60-66%	F = 0-59%

**Descriptions of Course Requirements:***Article Critiques*

Each student will complete three article critiques. All article critiques must be typed of the review and include the research article itself. All of the articles must be scholarly and come from refereed journals.

*Research Proposal Presentation*

At the completion of this course, students will give a 10-15 minute oral research proposal presentation. This presentation will be over a research question that they developed over the course of the semester and will include an introduction, hypothesis, and proposed methods that was developed during the semester.

**Tentative Lecture Topic:**

1. Overview of the Research Process
  - a. Introduction to research in exercise science
  - b. Retrieving and reviewing scientific literature
2. Understanding and Developing Research Designs
  - a. Qualitative and quantitative research
  - b. Ethical issues in research and scholarship
3. Exploring Measurement and Analysis
  - a. Validity, Reliability, Objectivity
  - b. Hypothesis Testing
4. Research Methods in Exercise Science
  - a. Review common methods used in exercise science
  - b. Discuss considerations when designing research methods
5. Interpretation of Results
  - a. Review of common statistical test performed in exercise science research
6. Developing and Presenting the Research Problem and Methods

**Textbook:**

Designing and Conducting Research in Health and Human Performance, 2<sup>nd</sup> Edition. Tracey D Matthews, Kimberly T Kostelis. ISBN: 9781138320802

**Attendance:**

The following are considered to be valid circumstances for student absence;

- a. Incapacitating illness or condition – limited to the number of absences that a faculty member determines to be a balance between accommodating the illness/condition and ensuring sufficient participation in-class activities.

- b. Accommodation for a disability, working in conjunction with Accessibility and Disability Services.
- c. Official representation of the University (excuses for official representation of the University should be obtained from the official supervising the activity).
- d. Death of a close relative.
- e. Religious holidays (A list of primary sacred times for world religions can be found online at [www.interfaithcalendar.org](http://www.interfaithcalendar.org).)
- f. Active military duty or assignment.
- g. Official University closings.
- h. Compliance with a subpoena.
- i. Absences excused under Title IX of the Education Amendments of 1972.

In conjunction with University policy, a grade of F will be assigned for excused or unexcused absences in excess of 25% of the regularly scheduled class meetings. (p. 40, CCU 2010-2011 Catalog). Missing 12 or more 50-minute classes WILL RESULT in course failure! It is a professional courtesy to notify the instructor of a pending absence prior to class.

### **Accessibility and Disability Services:**

Coastal Carolina University is committed to equitable access and the inclusion of individuals with disabilities in accordance with the Americans with Disabilities Act and Section 504 of the Rehabilitation Act. Individuals seeking reasonable accommodations should contact Accessibility & Disability Services (843-349-2503 or <https://www.coastal.edu/disabilityservices/>).

### **Academic Integrity Code:**

#### *Statement of Community Standards:*

Coastal Carolina University is an academic community that expects the highest standards of honesty, integrity and personal responsibility. Members of this community are accountable for their actions and are committed to creating an atmosphere of mutual respect and trust.

As a student it is you are expected to:

- Understand and abide by the Code of Student Conduct
- Take responsibility for personal behavior
- Actively oppose every instance of academic dishonesty

#### *Academic Integrity Policy:*

1. Plagiarism, cheating, attempted cheating and all other forms of academic dishonesty.

Examples of plagiarism include, but are not limited to, the following:

- a. borrowing words, sentences, ideas, conclusions, examples and/or organization of an assignment without proper acknowledgment from a source (for example, a book, article, electronic document or another student's paper)
- b. submitting another person's work in place of his/her own
- c. allowing someone else to revise, correct or edit an assignment without explicit permission of the instructor
- d. submitting work without proper acknowledgment from commercial firms, websites, fraternity or sorority files, or any other outside sources, whether purchased or not
- e. allowing another person to substitute any part of a course for them, including quizzes, tests and final examinations

- f. submitting any written assignments done with the assistance of another without the explicit permission of the instructor
  - g. submitting work that was originally prepared for another class without the explicit permission of the instructor
  - h. knowingly aiding another student who is engaged in plagiarism.
2. Examples of cheating and attempted cheating include, but are not limited to, the following:
  - a. using or intending to use unauthorized information, materials or assistance of any kind for an assignment, quiz, test or final examination
  - b. knowingly aiding or attempting to aid another student who is engaged in cheating.
3. Furnishing false information to any University official, faculty member or University office to obtain academic advantage.
4. Forging, altering or misusing any University document or record to obtain academic advantage.

*Academic Sanctions:*

The faculty member may impose one (1) or more of the following sanctions when a student is found in violation:

- a. Written warning
- b. Grade of F on the assignment
- c. Grade of FX in the course (If a penalty grade of FX is imposed in the course, the student will not be able to drop the course, petition a grade change or use the grade forgiveness policy.)
- d. Required to attend an academic integrity workshop
- e. Other educational sanctions (in consultation with the Academic Integrity Officer)

Following the first violation of academic integrity, the student will receive an F on the assignment in question. If a second violation occurs the student will receive an FX for the course. All cases of academic misconduct will be reported to the Office of Academic Integrity.