Meeting Time: There is no assigned meeting time for this online course
Meeting Location: All course content will be delivered via OAKS; there is no assigned meeting location for this course
Instructor: Michelle McLeod, PhD, ATC, SCAT
Office: 310 Silcox Physical Education and Health Center
Office Hours: Mondays 10:00-11:00 a.m. via Google Hangout or by appointment
Office Phone: 843-953-3047
Email: mcleodmm@cofc.edu
Course Website: Hosted by OAKS
Prerequisites: EXSC 330 or 340; MATH 104 or equivalent or MATH 250; or permission of the instructor
Required Text:
   II. Supplemental readings located on OAKS
Recommended Text:
Required Technology:
   I. Computer with Internet access, sound card, microphone or external speakers/headphones
   II. OAKS
   III. Google Drive – use with your g.cofc.edu ID
   IV. VoiceThread – I recommend linking with your g.cofc.edu account for ease of identifying your work

Course Description: The class will focus on data collection and interpretation in health and exercise science, including common physiological, biomechanical, anatomical, and health-related variables. Emphasis is placed on the development of a clinical research question and the appropriate procedures to further the body of knowledge in the area of health and exercise science.

Course Objectives: Upon successful completion of the course you should be able to:
   1. Define common research designs used in exercise science, health, athletic training, and medicine
   2. Determine various positive and negative characteristics of specific research designs
   3. Assess and optimize validity and reliability of variables used in athletic training, health and exercise science
   4. Develop a focused research question and appropriate experimental hypotheses for a specific sub-discipline of interest
   5. Perform a thorough literature search using contemporary search engines
   6. Assess the financial cost and level of invasiveness for various research methods
   7. Make appropriate ethical decisions in research, including the use of special populations as research participants while involved in physical exertion
Course Objectives (cont.):
8. Understand statistical procedures
   a. Descriptive statistics
   b. Inferential statistics
9. Understand common statistical software packages
10. Interpret statistical evidence and discuss the pertinent implications
11. Write a research proposal using a common style specified by a peer-reviewed journal in his or her
    sub-discipline

Student Learning Outcomes:
1. As a result of this course, students will be able to utilize contemporary search engines to perform a
   thorough literature search as evidenced by earning a B or higher on the Research Design Project
   Reference List.
2. As a result of this course, students will be able to identify positive and negative characteristics of
   specific research designs as evidenced by earning a B or higher on exam II.
3. As a result of this course, students will be able to differentiate between common research designs
   used in exercise science, health, athletic training and medicine as evidenced by earning a B or
   higher on the Research Design Infographic.

Professional Behavior – You are expected to conduct yourself as a professional and to demonstrate
respect for the course instructor and peers with behavior that is conducive to a positive learning
environment.

Network Etiquette – “Netiquette.” Because of the online nature of this course with little to no face-to-face
interaction, please remember to be mindful of your online behavior. The following standards will be
expected in this course:
• Use appropriate language, grammar, and punctuation. Discussion boards are not the equivalent of
text messages.
• No “SHOUTING!” Refrain from the use of acronyms that are not common to the class.
• Please be mindful of other’s posts. Pause and reflect before posting a response of extreme
  emotion and opinion.
• When starting a new discussion post, make sure you use clear subject lines.
• Keep your content relevant to the course content. I will be glad to hear new relationships may be
  formed as a result of interacting in this group, but please keep posts professional.
• Be Positive!

Communication – Clear communication is a necessity in the online course format. If you have general
questions specific to the course that other students might also have, check the General Course Questions
discussion board and/or start a new discussion thread. If you know the answer to a question a peer has
posted, you do not need to wait for me to respond; take initiative and post with an answer! I will be checking
the discussion boards will respond within 24 hours, Monday-Friday. I will likely not post responses to
discussion boards or e-mails if they are sent after 5 p.m. the evening before an exam or a due date. Please
plan your schedules accordingly. Also, don’t forget to check the syllabus.
**Technical Issues** – If you have problems related to the course, please check the Technical Issues discussion board (accessing Google Drive, sharing/submitting files, etc.). If you have problems accessing OAKS, please contact the Student Computing Support Desk at 843.953.5457 or e-mail studentcomputingsupport@cofc.edu. Check for computing downloads and tutorials at blogs.cofc/scs/.

**Student Specific Questions** – If you have a question specific to yourself (i.e. grade, etc.) you may contact me via e-mail or my office phone. E-mail is your best option. When using e-mail, my expectation is that you have taken the time to properly compose an e-mail message. If you have questions about what this looks like, look here and here.

**Course Schedule, Assignment Due Dates and Exams** – All assignments are to be completed and turned in on time. Late assignments will result in a reduced grade as determined by the instructor’s discretion (10% deduction for each day the assignment is late). In the unlikely event that there is a change to an assignment due date or to an exam date, you will be given no less than one week’s notice. However, it is your responsibility to keep up with due dates in this course. Any announcements or changes to the course schedule or syllabus will be posted in the Course News feed in OAKS. I highly recommend that you subscribe to receiving notifications when an announcement is posted. You can do this on the Course News page. Please see details instructions found on the course OAKS page in the “Links to Tutorials/Instructions” Module. All assignments will be due at 11:59 p.m. EST of each Tuesday. New course content modules will open on Wednesdays at 12:01 a.m. EST unless otherwise noted on the course schedule. Assignment, quiz content and other materials may not become available until lecture materials have been accessed and viewed. These restrictions will be specified within each content module on OAKS.

**Attendance** - Class attendance (i.e. logging into the online course content) is an individual student responsibility and will be monitored on a limited basis. Students are expected to actively participate in course discussions as instructed, and to complete all assignments as outlined. Missed work must be made up and it is the student’s responsibility. Missed exams can only be made up if there is documentation for an illness or conflict. Make-up exams must be scheduled in advance; otherwise the student will receive a zero.

You should expect to sign into the course a minimum of 3 times per week, spending approximately one-hour viewing lecture materials or assigned readings, and spending approximately an additional 6 hours per week on assignments including discussion board posts, class preparation assignments, writing, studying, etc.

***This is an online course! Not having Internet accessibility is NOT a valid excuse for late or missing work, or for missed quizzes and exams.***

**Honor Code and Academic Integrity** – It is expected you will conduct yourself within the guidelines of the honor system. This includes the online course format (See 2017-2018 Student Handbook) All academic work should be done with the high level of honesty and integrity that this institution demands. The student handbook is a guide to your responsibilities and rights as a student. If you are not familiar with the document, please take the time to review the information contained within the handbook.
Incidents where your actions are determined by the instructor to be related more to a misunderstanding rather than a misjudgment will be handled as a Class 3 Honor Code Violation. An intervention designed to help prevent you from repeating the error will be given to you. The intervention, submitted by form and signed both by the instructor and yourself, will be forwarded to the Dean of Students and placed in the your student file.

Cases of suspected academic dishonesty will be reported directly by the instructor and/or others having knowledge of the incident to the Dean of Students as a Class 1 or Class 2 Honor Code Violation. If the Honor Board finds you responsible for academic dishonesty you will receive a XF in the course, indicating failure of the course due to academic dishonesty. This grade will appear on your transcript for two years after which you may petition for the X to be expunged. You may also be placed on disciplinary probation, suspended (temporary removal) or expelled (permanent removal) from the College by the Honor Board.

You should be aware that unauthorized collaboration – working together without permission – is a form of cheating. Unless the instructor specifies that students can work together on an assignment, quiz and/or test, no collaboration during the completion of the assignment is permitted. Other forms of cheating include possessing or using an unauthorized study aid (which could include accessing information via a cell phone or computer, or using unauthorized resources during quizzes or exams), copying from others’ exams, plagiarism, and giving unauthorized assistance.

Research conducted and/or papers written for other classes cannot be used in whole or in part for any assignment in this class without obtaining prior permission from the instructor.

Disability Statement – This College abides by section 504 of the Rehabilitation Act of 1973 and the Americans with Disabilities Act that stipulates no student shall be denied access to an education “solely by reason of a handicap." Disabilities covered by law include, but are not limited to, learning disabilities and hearing, sight or mobility impairments. If you have a documented disability that may have some impact on your work in this class and for which you may require accommodations, please see an administrator at the Center of Disability Services, 843.953.1431 or me so that such accommodation may be arranged. If there is a student in this class who has a documented disability and has been approved to receive accommodations through SNAP Services, please set up an appointment to discuss accommodations with me.
Evaluation Criteria:

<table>
<thead>
<tr>
<th>Evaluation Criteria</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Discussion Board Participation (5 x 10 pts)</td>
<td>50 pts</td>
</tr>
<tr>
<td>Quizzes (12 x 10 pts)</td>
<td>120 pts</td>
</tr>
<tr>
<td>Exams (3 x 100 pts)</td>
<td>300 pts</td>
</tr>
<tr>
<td>Journal Article Critique</td>
<td>50 pts</td>
</tr>
<tr>
<td>Worksheets (6 x 10 pts)</td>
<td>60 pts</td>
</tr>
<tr>
<td>Partner Research Design Project</td>
<td>Reference List 10 pts</td>
</tr>
<tr>
<td>Abstracts (For 5 References)</td>
<td>37 pts</td>
</tr>
<tr>
<td>Introduction/Purpose &amp; Rationale</td>
<td>25 pts</td>
</tr>
<tr>
<td>Research Design Infographic</td>
<td>50 pts</td>
</tr>
<tr>
<td><strong>Total Points</strong></td>
<td>702 pts</td>
</tr>
</tbody>
</table>

Final Course Grade – Totaling the number of points earned and dividing it by the total number of available points (652) will calculate/determine the final grade. The final grade for this course will be assigned based solely upon the percentage of points earned. No other factor will be considered. The grade will be assigned according to the following table:

- A   >90%        B-  79 – 78%        D+  67 – 66%
- A-  89 – 88%    B+  77 – 75%        D  65 – 64%
- B+  87 – 85%    C  74 – 70%        D-  63 – 62%
- B   84 – 80%    C-  69 – 68%        F  <62%

**NOTE:** The last day to withdraw with a grade of “W” for the semester is **Thursday, October 26, 2017**.

**Details of Evaluation Criteria**

**Discussion Board Participation**
Active participation in this course is an important component of this course and increasing your understanding of course material. Being able to effectively communicate and demonstrate your understanding of course material is essential. You are encouraged to contribute thoughtful, original feedback—that is, don’t simply duplicate what someone else has already posted. You may also have a different perspective or opinion on what someone may have already posted in the discussion board. This is expected! Please remember to be respectful in your posts. As a general rule, if what you write isn’t something that you would share with your classmates in a face-to-face setting, don’t write it.

**Quizzes**
There will be twelve (12) quizzes throughout the duration of the course. Quizzes will become available after you have accessed and viewed the course lectures and other course activities as specified within the content modules. All quizzes will count towards the total possible points for the course. No quizzes will be dropped.

**Examinations**
Three (3) online examinations will be given over the course of the semester. The format of the examinations will vary between Multiple Choice, True/False, Fill in the Blank, dependent the content that is being tested. Please note the final examination time at the top of the syllabus.
Journal Article Critique
An important component of being an informed consumer of research reports and developing a strong research proposal includes the ability to evaluate the quality of a published research paper. For this assignment you will be assigned published research article from a list of topics provided by the instructor in an area of discipline in which you are interested. Upon reading the article, you will be asked write a summary of the paper addressing several questions related to the quality of the paper. Specific details regarding this assignment will be provided in a rubric posted on the course OAKS page.

Worksheets
There will be a total of six (6) worksheets assigned throughout the semester. These worksheets are intended to allow for practical application of course material and assist with committing concepts to memory. Worksheets will be posted in a Google Doc, and you will be expected to complete all work and submit it as a Google Doc in the OAKS course Dropbox.

Research Design Project
All students are strongly encouraged to engage in research at the College of Charleston. This assignment will help you develop the communication and interpersonal skills, as well as the ability to apply learned course content with the purpose of designing an appropriate research project in order to answer a specific question or problem. This will be a hypothetical question and research design; you will not be tasked with carrying out the research project. Required components for research will include: introduction, materials and methods, and references. Development of your research proposal will include: 1) obtaining references, 2) drafting abstracts for references, 3) composing an introduction and describing the significance of your research question, and 4) illustrating various research designs your project could take on, in the form of an infographic. Specific details regarding the research design project including formatting and grading will be provided in a rubric posted on the Google Drive Folder linked in the course OAKS page.
EXSC 433-04 Research Methods and Design  
Fall 2017 Course Schedule

*Please note: the course schedule is subject to change* I will be building in due dates for your research design project that will be pointed out to you on the syllabus and in the OAKS News section of the course.

<table>
<thead>
<tr>
<th>Module Topic &amp; Dates</th>
<th>Module Tasks</th>
<th>Module Assignments &amp; Due Dates</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>August 22-August 29</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
| **Module 1: Course Introduction**  
  - Structure  
  - Expectations  
  - Introductions  
  **Module 2: Introduction to Research**  
  - What is research and how is it carried out? | **Module 1:**  
  1. Read the syllabus  
  **Module 2:**  
  1. Watch the lecture: Defining Research  
    a. Text p. 1-6  
  2. Watch the lecture: The Scientific Method  
    a. Text p. 6-12  
  3. Watch the lecture: Introduction to Types of Research  
    a. Text p. 12-16 | **Module 1:**  
  1. Student Introductions on the discussion board post 8/29  
  2. Syllabus Quiz 8/29  
  3. Topics of Interest Google Form 8/29  
  **Module 2:**  
  1. Topics of Interest -- “Why is research important?” discussion board post 8/29  
  "Recommended completion by 8/27"  
  2. Respond to two of your peers statements in the discussion board 8/29  
  3. Quiz: The Scientific Method |
| **August 30-September 5**  | 1. Watch the lecture: Levels of Evidence  
  2. Watch the lecture: Other Levels of Evidence and Strength of Recommendation Taxonomy | 1. Worksheet: Levels of Evidence 9/5 |
| **September 6-September 12**  
**Module 4: Developing a Research Proposal (Part I)**  
- Before developing a research proposal, you need...A QUESTION! | 1. Watch the lecture: Using the PICO Format  
  2. Watch the lecture: Additional Considerations, Research Hypotheses, Specific Aims  
    a. Text p. 52-60 | 1. Write TWO focused research questions on the course discussion board 9/12  
  "Recommended completion by 9/10"  
  2. Respond to TWO of your peers’ research questions 9/12  
  3. Quiz: PICO and Characteristics of a Good Research Question 9/12 |
### September 13- September 19

**Module 5: Finding and Appraising the Evidence**
- Types of resources - the good, the bad, and the ugly.

**Module 6: Developing a Research Proposal (Part II)**
- Why is your question important?
- How will you answer your question?

**Module 5:stä**
1. Watch the lecture: Types of Publications
   a. Text p. 41-45
2. Watch the lecture: Search Strategies and Databases
   a. Text p. 35-40

**Module 6:**
1. Watch the lecture: Developing the Rationale
   a. Text p. 58-61
2. Watch the lecture: Planning the Methods
   a. Text p. 61-65
3. Read: Who are you writing for? Text p. 66-67
4. Watch the lecture: Research Ethics
   a. Text p. 69-87

1. Quiz: Components of a Research Proposal 9/19
2. Quiz: Research Ethics; Identifying Plagiarism 9/19

### September 20-September 25

**Exam I Preparation**

**STUDY!**

### September 26

**Exam I**

Complete Exam I

Exam I will open at 12:00 a.m. and is due no later than 11:59 p.m. on 9/26

### September 27-October 3

**Module 7: Experimental Research**
- What makes research “experimental”?

1. Watch the lecture: Elements of Experimental Research
   a. Text p. 91-101
2. Watch the lecture: Experimental Research Design
   a. Text p.101-107

1. Worksheet: Identifying Experimental Research Design 10/3
2. Quiz: Experimental Research 10/3

### October 4-October 10

**Module 8: Descriptive Research**
- What makes research “descriptive”?

1. Watch the lecture: Elements of Descriptive Research
   a. Text Ch. 7
2. Watch the lecture: Other Descriptive Research Approaches
   a. Text Ch. 7

1. Experimental v. Descriptive Studies in Exercise Science discussion board post 10/10
2. Quiz: Descriptive Research 10/10

### October 11-October 17

**Module 9: Qualitative Research**

**Module 9:**
1. Watch the lecture:
<table>
<thead>
<tr>
<th>Module 10: Epidemiological Approaches</th>
<th>Module 10: Epidemiological Approaches</th>
<th>Module 10: Epidemiological Approaches</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Traditions of Qualitative Research</td>
<td>Qualitative Research a. Text p. 127-144</td>
<td>1. Quiz: Qualitative Research 10/17</td>
</tr>
<tr>
<td>Module 10: Epidemiological Approaches</td>
<td>2. Read: Text p. 137-143</td>
<td>Module 10: Epidemiological Approaches</td>
</tr>
</tbody>
</table>

**October 18-October 23**

Exam II Preparation

STUDY!

**October 24**

Exam II

Complete Exam II

Exam II will open at 12:00 a.m. and is due no later than 11:59 p.m. on 10/24

**October 25-October 31**

Module 11: Basic Statistical Concepts

- How do we draw conclusions in research?

2. Watch the lecture: Inferential Statistics
3. Watch the lecture: Sample Selection
4. Watch the lecture: Levels of Data; Parametric v. Non-Parametric Statistics

1. Worksheet: Basic Statistical Concepts 10/31
2. Basic Statistical Concepts discussion board post 10/31
3. Quiz: Basic Statistical Concepts 10/31

**November 1-November 7**

Module 12: Finding Relationships

1. Watch the lecture: Correlations a. Text p. 184-197
2. Watch the lecture: Regressions a. Text p. 197-199

1. Quiz: Finding Relationships 11/7

**November 8-November 14**

Module 13: Finding Differences

1. Watch the lecture: Finding Differences, T-Tests
2. Watch the lecture: Analyses of Variance (ANOVA)s
3. Read Text p. 203-220

1. Worksheet: Finding Differences 11/14
2. Quiz: Finding Differences 11/14

**November 15-November 21**

Module 14: Measurement of Variables

1. Watch the lecture: Validity and Reliability a. Text p. 234-244

1. Quiz: Measurement of Variables 11/21
| November 22-December 4 | 1. Watch the lecture: How Statistical Tests and Research Design are Related  
   2. Worksheet: Part II: Selecting a Test for your Research Design Project 12/4  
   3. Course Evaluations 12/13 |
|------------------------|-----------------------------------------------------------------------------|-----------------------------------------------------------------|
| Module 15: Selecting Statistical Tests  
   - Which Statistical Test Do I Choose?! | December 10, 4:00-7:00 PM  
   Final Exam | Complete Exam III |
| | | Exam II will open at 4:00 p.m. and is due no later than 7:00 p.m. on 12/10 |