Instructor Information:
Kurt W. Kornatz, PhD
Silcox 225
843-953-9216
kornatzkw@cofc.edu

Office Hours: 2:00-4:00P, TTR, and by appointment

Course Description: The course 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.

Prerequisites: EXSC 330, EXSC 340, and MATH 104 or 240; or permission of the instructor

Course Objectives: Competencies within the course should prepare students to:
1. identify common research designs used in exercise and health science, athletic training, and medical fields
2. develop a research question and appropriate experimental hypothesis for the student’s specific sub-discipline of interest
3. perform a thorough literature search using contemporary search engines
4. understand statistical procedures including descriptive and inferential statistics
5. interpret research manuscripts (including statistical evidence and pertinent implications)
6. construct a research proposal in exercise science.

Student Learning Outcomes: Upon completion of the course, students will be able to:
1. describe research designs and statistical procedures used in exercise science research. This will be assessed by 4 exams given throughout the semester.
2. develop a research question and appropriate experimental hypothesis for the student’s self-selected area of interest. This will be worked on in class with the help of peers and assessed through a participation grade (see class activities under “Evaluation”)
3. retrieve peer-reviewed scholarly research articles and analyze scholarly merit. A written article summary and critique will be composed for each retrieved article (>4) and graded according to rubric. All students are expected to score 80% or better for each critique.
4. After researching their topics, students will write a research proposal using a common style specified by a peer-reviewed journal in their sub-discipline.

It is important to note that none of the SLOs above simply require students to memorize material. Of course, as in many content areas, there will be some memorization. More important, however, is your ability to apply and use the information. Reading, thinking and articulating the information in this course is critical to your learning!
Topics Covered:
- Research manuscripts and research proposals
- Quality control in research
- Information retrieval
- IRB application and process
- Central tendency and data variability
- Probability and hypothesis testing
- Relationships and predictions
- t-tests, ANOVA & ANCOVA
- Non-parametric statistical tests
- Validity, reliability, and measurement error
- Qualitative research

Teaching Strategies: This course will use a combination of face-to-face lecture sessions, article critiques, literature searches, data collection and analysis experiences, as well as cooperative group work (including short presentations).

Evaluation:
- Class Activities: 10%
- Article Critiques (4) 20%
- Exam 1: 10%
- Exam 2: 10%
- Exam 3: 10%
- Final Exam: 20%
- Research Proposal 20%

*NOTE: more information about course policy can be found on EXSC433_Intro to course on OAKS.

Grading Scale: The grading scale is as follows:

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<th>Grade</th>
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<tr>
<td>*A</td>
<td>92% and above</td>
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<td>A-</td>
<td>90 – 91.99%</td>
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<td>B+</td>
<td>88 – 89.99%</td>
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<td>B</td>
<td>82 – 87.99%</td>
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<tr>
<td>B-</td>
<td>80 – 81.99%</td>
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<tr>
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<td>70 – 71.99%</td>
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<td>D+</td>
<td>68 – 69.99%</td>
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<td>D</td>
<td>62 – 67.99%</td>
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<td>D-</td>
<td>60 – 61.99%</td>
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<td>F</td>
<td>&lt; 60%</td>
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**Texts/Readings/References:**


All other course materials (including lecture slides) will be available on OAKS. **All handouts must be downloaded from OAKS. No materials will be distributed in class.** Come prepared!

You will be responsible for regularly checking OAKS for announcements and updates.

**Academic Honor Code:** Each student is required understand and accept the guidelines of the College of Charleston Honor System. [http://studentaffairs.cofc.edu/honor-system/](http://studentaffairs.cofc.edu/honor-system/)

**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.

**Assignment Policy:** All assignments are due at the beginning of class on the day they are due.

**Attendance Policy:** 2 points will be deducted from your final grade for every unexcused absence.

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**Attendance will be taken for each class period! If you are late to class (you shouldn’t be!), it is your responsibility to make certain the instructor knows you were there. You are allowed no unexcused absences --2 points will be deducted from your final grade for each unexcused absence. Absences will be dealt with on a case-by-case basis--you may be required to provide written documentation!!! Two late arrivals to class will be counted as an absence. This policy will be followed, regardless of the reason for your absence!!!