**KIN 315**

**Physiology of Exercise**

**Block 6 Spring 2019**

Instructor: Justus Hallam PhD

Email: jhallam@cornellcollege.edu

Office: 312 Law Hall

Office Hours: Mon-Fri afternoons or by appointment (I prefer if you just let me know when you want to come in and I will be there)

Class Time: 9:00am-12pm M,W,Th,F, 9-11am T

Class Location: Room 16, Small Life Sports Center

**Course Description: KIN 315 Physiology of Exercise** provides an in-depth study of the human responses to exercise and exercise training. This course builds on many concepts introduced in KIN 207 Systems Physiology, which is a pre-requisite for this course. Areas of emphasis for KIN 315 include: substrate metabolism and energy production during exercise, cardiorespiratory and neuromuscular function during acute exercise, cardiovascular and neuromuscular adaptations to exercise training, endocrine responses to physical activity, and thermoregulation. In addition, students will develop skills related to application of scientific methodologies commonly used in exercise physiology and will gain practical experience through laboratory activities.

**Prerequisite**: KIN 207 Systems Physiology

**Course Objectives:**

* To increase the understanding of homeostatic physiological systems that are active during physical activity and exercise (*knowledge, well-being)*
* To apply basic physiological concepts to understand acute physiological responses and chronic physiological adaptations to physical activity and exercise (*inquiry, reasoning)*
* To develop critical evaluation skills for interpretation of current exercise physiology-based research methodologies and findings (*well-being, vocational, communication)*
* To provide an introduction to metabolic calculations and other methods commonly used in exercise physiology to quantify exercise effort, in accordance with the standards set forth by the American College of Sports Medicine (*knowledge, reasoning)*

*This course supports the Educational Priorities and Outcomes of Cornell College with emphasis on knowledge, well-being, inquiry, and reasoning, vocation and communication.*

**Instructional Methods/Course Structure:** Classes will include a combination of lectures, discussion & laboratory sessions. Reading assignments and presentations will be required. All topics covered may be on the exams and students are highly encouraged to take notes.

**Required Reading/Textbooks:**

Kenney, Larry W., Wilmore, Jack, Costill, David. *Physiology of Sport and Exercise 6th Edition.* Human Kinetics, 2015.

ISBN-13: 9781450477673

**Grading Breakdown:**

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| **Exams (3)** | **~180 pts (60 pts each)** |
| **Quizzes** | **50 pts** |
| **Assignments** | **~80 pts** |
| **Labs (3)** | **60 pts** |

**Grade Scale:**

A = 95-100% C+ = 77-79.99%

A- = 90-94.99% C = 74-76.99%

B+ = 88-89.99% C- = 70-73.99%

B = 84-87.99% D+ = 67-69.99%

B- = 80-83.99% D = 60-66.99%

F = 59.99% and below

**Exams:** There will be 3 exams during the course of the block. Exams will include information from the book, course lectures, activities, and assignments. I will make most PowerPoint lectures available online, however these slides are only an outline and students should add their own notes to supplement that material. Exams will take place during normal class time. Arriving late to an exam is the equivalent of not showing up for the exam. Students are expected to be on time to take their exams, coming late distracts others trying to take the exam. Students who miss an exam without a valid excuse can take the exam for half credit, as long as they take it within one week. Make up exams will be given to students who have valid excuses for missing the exam and talk to me beforehand. Make up exams will cover similar material but will be different than exams given during class time. All make up exams must be taken within one week of the original exam date. If you have questions about the exam it is in your best interest to contact Dr. Hallam well in advance instead of waiting to ask questions right before an exam.

In order to receive a passing grade in this class, you must receive an average of at least 55% on your 3 exams. Failure to do so will result in a failing grade for the class.

**Learning Expectations:** Successful completion of KIN 315 requires a significant time commitment, both in and out of the classroom. Additionally, *students are expected to spend a significant amount of time (2-3 hours daily): a) reading the text to prepare for upcoming lectures, b) completing homework and laboratory assignments, and c) reviewing lecture notes*.

Students are also encouraged to ask questions when a more detailed explanation is needed—ideally “lecture” would include two-way communication between students and the professor to promote discussion and the sharing ideas rather than a formal lecture with little opportunity for student-professor interaction. This is best facilitated by students coming to class prepared to discuss ideas and ask questions about unclear concepts (and also contributes favorably towards receiving the full amount of credit for “Daily Attendance & Participation”, 5% of the final grade).

**Assignments:** All written assignments are due to Dr. Hallam in class on the day they are due. All written assignments need to be typed in 12pt font, double spacing, with 1” margins, unless otherwise noted. The assignment should include your name and the date. Anything that is NOT in this format or late will receive an automatic zero. All work should be properly cited; this includes text or images that are taken from outside sources. Plagiarism will not be tolerated in any circumstance. Your assignments should be proofread prior to being turned in. This means taking the time to read through your assignment and correct any spelling or typing errors (ex. Misspelled words, typos, slang, repeat words etc). Assignments that contain numerous proofreading type errors, will immediately receive 50% taken off the total points.

**Quizzes:** We will have approximately 12 quizzes at that start of lecture during the block. If you are late to class and miss the quiz, you CANNOT make it up. Each of these will be worth 5pts. I will take your best 10 scores on quizzes to give you a final grade out of 50. The quizzes with take place on an app called Socrative. We will discuss this more in depth in class.

**Late Assignments:** Assignments turned in after the due date and time, will not be accepted without prior approval. In the event a student has approval to submit late coursework, a 50% per day grade reduction will be imposed. The late penalty is waived for excused absences.

**Make-up Policy:** Students are allowed to make up coursework missed due to an excused absence. There are two main criteria for determining whether or not a student may make up missed coursework: *first,* the student misses class due to a College-approved excuse (considered an “excused absence”, mandatory attendance at a college-sponsored event, documented medical excuse); *second,* the student makes arrangements to make up the missed coursework prior to the absence. It is the student’s responsibility to contact me about making up coursework and to provide documentation for the absence.

**Moodle:** Moodle will be used as a course management tool. You are responsible for checking this site on a regular basis. Course notes will be available on Moodle. I would recommend checking Moodle prior to class to make sure you have the most up to date course notes and announcements.

**Withdrawal from the Course:** According to Cornell College guidelines, students may withdrawal from this course on the 15th day of the block assuming that they meet specific criteria as listed in the Course Catalogue. This option is available for the student who has made a *good faith effort* to perform well in class, as demonstrated by consistent attendance and participation in course activities and completion of all assignments.

**Accommodations for students with documented disabilities:**

Cornell College is committed to providing equal educational opportunities to all students. Students who need accommodations for learning disabilities must provide documentation from a professional qualified to diagnose learning disabilities. For more information see cornellcollege.edu/disabilities/documentation/index.shtml. Students requesting services may schedule a meeting with the disabilities services coordinator as early as possible to discuss their needs and develop an individualized accommodation plan. Ideally, this meeting would take place well before the start of classes. At the beginning of each course, the student must notify the instructor within the first three days of the term of any accommodations needed for the duration of the course.

Contact: Brooke Paulson (319) 895-4382 bpaulsen@cornellcollege.edu

**Academic Honesty Statement:**

Cornell College expects all members of the Cornell community to act with academic integrity. An important aspect of academic integrity is respecting the work of others. A student is expected to explicitly acknowledge ideas, claims, observations, or data of others, unless generally known. When a piece of work is submitted for credit, a student is asserting that the submission is her or his work unless there is a citation of a specific source. If there is no appropriate acknowledgment of sources, whether intended or not, this may constitute a violation of the College's requirement for honesty in academic work and may be treated as a case of academic dishonesty. The procedures regarding how the College deals with cases of academic dishonesty appear in The Compass, our student handbook, under the heading "Academic Policies – Honesty in Academic Work."

<http://www.cornellcollege.edu/student-affairs/compass/academic-policies/honesty-in-academic-work.shtml>

Cheating refers to the use of unauthorized sources of information on examinations or any attempt by students to deceive the evaluator of an examination, paper, or project.

Plagiarism is the act of taking the work of another and presenting it as one's own, without acknowledgement of the original source.

**Any student caught plagiarizing will automatically fail that assignment and further action may be taken.**

**Any student caught cheating will automatically fail the class.**

**Tentative Class Schedule**

*This schedule is tentative and may change during the block*

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| **Mon**  **Feb 11** | Introduction  ***Start Lab 1***  Fuel for Exercise (Chapter 2) | Read Chapter 2 |
| **Tues**  **Feb 12** | Fuel for Exercise and Structure & Function of Muscle (Chap 1)  Children’s Book Information | Read: Chapter 1 |
| **Wed**  **Feb 13** | Neural Control of Exercising Muscle (Chapter 3) | Read: Chapter 3 |
| **Thurs**  **Feb 14** | Hormonal Control during Exercise (Chap 4) | Read: Chapter 4 |
| **Fri**  **Feb 15** | Energy Expenditure and Fatigue (Chap 5)  **Lab 2: Energy Capacities** | Read: Chapter 5 |
| **Mon**  **Feb 18** | **Exam 1**  Chapters 1-5  **Continue Lab 1** | Exam over Chapters 1-5 |
| **Tues Feb 19** | Cardiovascular Control of Exercise (Chap 6) | Read: Chapters 6 |
| **Wed**  **Feb 20** | Cardiovascular continued  Respiratory System and Regulation (Chap 7) | Read: Chapter 7 |
| **Thurs**  **Feb 21** | Cardiorespiratory Responses to Acute Exercise (Chap 8) | Read: Chapter 8 |
| **Fri**  **Feb 22** | Finish chapters 6-8  **Lab 3: VO2** | Due: Lab 2 |
| **Mon Feb 25** | **Exam 2**  Chapters 6-8  **Continue Lab 1** |  |
| **Tues**  **Feb 26** | Principles of Exercise Training (Chap 9)  Adaptations to Aerobic and Anaerobic Training (Chap 11) | Read: Chapters 9-11 |
| **Wed Feb 27** | Adaptations to Aerobic and Anaerobic Cont.  Adaptations to resistance training (Chapter 10) | Read: Chapter 10  Lab 3 Due |
| **Thurs**  **Feb 28** | Exercise in Hot and Cold (Chap 12) | Read: Chapter 12 |
| **Fri**  **Mar 1** | Body Composition and Nutrition for Sport (Chap 15) | Read: Chapter 15 |
| **Mon**  **Mar 4** | Body Composition and Ergogenic Aids | Read: Chapter 16 |
| **Tues Mar 5** | **Finish Material** |  |
| **Wed**  **Mar 6** | **Final Exam**  Chapters 9-12, 15, 16 | Lab Creation Assignment due  Challenge Questions due  Childrens Book Assignment due |