

KINE 4320 Exercise Testing and Prescription May 2014

Meets M-F, 12:30 PM to 4:20 PM in PEB 219,

Instructor: Jakob L. Vingren, PhD.

Office: PEB 210-H

Office hours: M-T Noon-12.30 PM

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Course description:

Students who successfully complete this course will have the understanding and skills necessary to perform sport and fitness testing and exercise prescription. The emphasis is on testing to measure, and training to improve, characteristics of energy transfer, such as anaerobic capacity and sustainable aerobic power.

The course is divided into two parts: (i) metabolic calculations used in exercise testing and prescription and (ii) concepts and applications of exercise testing, prescription, and training.

Course requirements:

Pre-requisite: The pre-requisite for enrollment in this course is satisfactory completion (i.e., a “C” or better) of a 3-hour exercise physiology course (e.g., KINE 3080).

Attendance: Attendance and active participation/engagement in class activities are a required part of this course. Each day you are counted absent/not participating without an approved excuse you will lose 50 points. Past history has demonstrated that classroom engagement is correlated with performance on exams, but classroom attendance is not a guarantee of success in this course. On days where we will be in the lab/gym you must wear athletics clothes and shoes appropriate to that day’s activities in order to be counted as present. If you are sick, you must provide me with a physician’s note with time and date stating that you are not capable of attending class on that date during class time (8.30-11.50AM).

Online lessons:

To be counted present for a given in-class meeting you must complete the online lesson *before* the scheduled in-class meeting/lecture/lab to which the online lesson applies.

Textbook: Maud and Foster’s “*Physiological Assessment of Human Fitness*”.

Reading Assignments: Please note: The reading assignments listed in this syllabus are intended to *supplement* the lecture materials. Some of the material in the text will **not** be covered in lecture but may be included on the exams. By the same token, all of the information given in lecture will **not** be found in the text, but may also be included on the exams. **I request and recommend** that you read the assigned sections in the text *before* the scheduled lectures to which they apply. Due to the nature of the material in this class, it is very difficult to adequately catch up right before exams.

Resources: Exams emphasize material covered in lectures, but may include material in the assigned chapters or handouts, whether discussed in class or not. The material on metabolic equations is covered in handouts of practice problems; other supporting information is widely available on the web. The material on concepts and applications of exercise testing and prescription is drawn from, and strongly supported by, the assigned textbook chapters. The material on concepts and application of exercise training is covered in handouts. The KHPR Study Center is highly recommended as an excellent resource.

Extra credit: There is none. Don't ask.

Exams: There are TWO written exams and ONE practical exam. The two written exams are worth 400 points each and practical exam is worth 200 points. The first written exam is over metabolic calculations; it will include five to ten math problems. The second written exam (multiple choice) is over concepts and applications of exercise testing, prescription, and training; it will emphasize material covered in lectures, but may include material in the assigned chapters, whether discussed in class or not. The practical exam will cover hands on execution of exercise testing and prescription in the gym/lab.

Grading: There are 1000 points possible (2 written exams @ 400, 1 practical exam @ 200)

900 to 1000 points = A;

800 to 899 points = B;

700 to 799 points = C

600 to 699 points = D;

below 600 points = F.

DO NOT e-mail me asking what your grade is!!! All your points are listed on Blackboard as soon as we have them so you can calculate it yourself. DO NOT email me asking for any extra points you have not earned or if you can earn extra points.

Acceptable Student Behavior:

Student behavior that interferes with an instructor's ability to conduct a class or other students' opportunity to learn is unacceptable and disruptive and will not be tolerated in any instructional forum at UNT. Students engaging in unacceptable behavior will be directed to leave the classroom and the instructor may refer the student to the Center for Student Rights and Responsibilities to consider whether the student's conduct violated the Code of Student Conduct. The university's expectations for student conduct apply to all instructional forums, including university and electronic classroom, labs, discussion groups, field trips, etc. The Code of Student Conduct can be found at www.unt.edu/csrr

Disabilities Accommodation:

The Department of Kinesiology, Health Promotion, and Recreation does not discriminate on the basis of disability in the recruitment and admission of students, the recruitment and employment of faculty and staff, and the operation of any of its programs and activities, as specified by federal laws and regulations. The designated liaison for KHPR is Dr. Chwee Lye Chng, PEB 209, 565-2069. Copies of the Department of KHPR ADA Compliance Document are available in the Chair's Office, PEB 209. Copies of the College of Education ADA Compliance Document

are available in the Dean's Office, Matthews 214. The student has the responsibility of informing the Office of Disability Accommodation at 940-565-4323 and the instructor during the first week of the semester of any disabling conditions that will require modification to avoid discrimination.

Additional Policies and Procedures:

Classroom behavior: If you come to class, you are expected to arrive on time and to remain for the entire class. You are not permitted to leave and then re-enter during a lecture. Interruptions of the class are not tolerated. There will be no use of tobacco products in the classroom. If you pull out your phone during class, I will confiscate it. Turn cell phones, pagers, iPods, laptops, tablets etc OFF. If you are rude or otherwise disrupt class (for example, if your cell phone, pager, iPod, or any other electronic device is activated during class), you are being disrespectful to your fellow classmates and to me. If this occurs, you will be directed to leave the classroom immediately. Such disruptions of class will be considered violations of the Code of Student Conduct and will be reported to the Center for Student Rights and Responsibilities. If you cannot, or do not want to, act with proper decorum in the classroom, *don't take this course*.

Metabolic calculations: Part of this class involves calculations, some using a hand calculator, some using a pencil and paper, and some 'in your head'. You are expected to be, or to become, familiar with SI ("metric") units, to be able to convert among various systems of units, and to be able to perform basic mathematical skills, such as adding and subtracting, multiplying and dividing, determining squares and square roots, working with positive and negative exponents, and describing linear and exponential responses. A significant percentage of the questions on the exams will involve basic arithmetic skills.

Exam protocol: *Exam protocol:* Bring a couple of #2 pencils, a good eraser, and a hand calculator, for exams. If you miss an exam, your grade is zero. You are expected to arrive on time and no-one may enter after the first student completes the exam and leaves. There are no make-ups. You will receive zero if you miss an exam.

Cheating: Cheating, in any form, will result in an automatic grade of "F" in the course, the removal of the student from the course, and immediate reporting of the student's actions to the Offices of (1) the Dean of Students and (2) the Dean of the College of Education. Cheating on exams includes, but is not limited to, looking at other people's exams or at any other sources of information during an exam, activation of a cell phone or other electronic device during an exam, discussing the exam with anyone and before all students have taken the exam.

Teacher / course evaluation: The Student Evaluation of Teaching Effectiveness (SETE) is a requirement for all organized classes at UNT. This short survey will be made available to you at the end of the semester, providing you a chance to comment on how this class is taught. I am very interested in the feedback I get from students, as I work continually to improve my teaching. I consider the SETE to be an important part of your participation in this class.

KINE 4320 FALL 2013 AGENDA

Class meeting	Topic	Chapters
Week 1		
Monday-Thursday (5/12-15)	Metabolic calculations and exercise prescription calculations We will learn about some quantitative relationships between measures of external or mechanical “work” (such as work rate or running velocity), performance (such as time to exhaustion), physiological responses (such as heart rate, VO_2 , and caloric expenditure), and response to exercise and training (such as improvements in aerobic fitness parameters or fat loss). We will use these relationships to generate exercise prescriptions to improve fitness and body composition.	Handouts
Friday (5/16)	1. Definitions What are the various definitions, and how and why do we measure this construct? 2. Anthropometry and body composition measurement We will discuss why body composition is important in health and exercise, how to measure it, and how to change it. 3. Exam review	1 + Online module 11 + Online module
Week 2		
Monday (5/19)	1. Written Exam 1 over metabolic calculations (1 h 20 min) 2. Measuring blood lactate, respiratory, and heart rate markers on the capacity for sustained exercise We will investigate the physiological significance of the “an aerobic threshold” and we will examine the wide range of testing methodologies used to identify various thresholds.	5 + Online module
Tuesday (5/20)	Direct determination of aerobic power (VO_{2max}) One of the most important and often-measured parameters of physiological function. We will discuss the importance of this measure, testing protocols, and underlying physiological assumptions. Emphasis will be on criteria for achievement of VO_{2max} and different ways of quantifying exercise intensity.	2 + Online module handouts
Wednesday (5/21)	Indirect methods for estimation of aerobic power VO_{2max} can be estimated using a variety of submaximal tests. We will discuss the physiological rationale behind these tests and the pro’s and con’s of submaximal tests.	3
Thursday (5/22)	Testing for anaerobic capacity Despite the popularity of VO_{2max} as a measure of physiological function, anaerobic capacity may well be the most important physiological characteristic, at least in athletes. We will critically examine tests of anaerobic power and capacity.	6 + Online module
Friday (5/23)	Practical Exam (execution of exercise testing/prescription)	
Week 3		
Tuesday (5/27)	Written Exam 2 (multiple choice) over concepts and applications of exercise testing, prescription, and training	