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KIN 484.01: Exercise, Disease and Aging Laboratory

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Course Description:
This lab course is designed to complement the lecture course (483) and will offer you a hands-on understanding of the procedures involved in exercise prescription and testing. Although some topics covered in the laboratory are not discussed in class, the goal of the lab experience is to better prepare you for certification by the American College of Sports Medicine. By integrating this lab (484) with the lecture course (483), you will gain a level of competence that will better prepare you for applied and clinical exercise testing and prescription. This class will also be complemented by enrolling in KIN 460.

Course Objectives:
To acquire:
1. A detailed understanding of the learning objectives necessary for certification with the American College of Sports Medicine.
2. An understanding of estimating the metabolic cost of various activities as a result of exercise testing and for exercise prescription.
3. The necessary knowledge for proper electrode placement and the procedures for submaximal and maximal graded exercise testing.
4. A working knowledge of ECG interpretation during both rest, exercise, and recovery.
5. An ability to administer graded exercise tests with accurate BP, HR, ECG and RPE data collection for apparently healthy subjects from informed consent (start) to interpretation (finish).
6. An ability to design exercise tests and programs for individuals with CHD, PAD, diabetes and other chronic diseases.

Instructional Format:
One 110-min. lecture/lab each week consisting of demonstrations and laboratory experiences

Attendance:
Attendance is required during the semester. More than one absence will count as a failing grade for the semester.

Laboratory Rules:
1. Come dressed and ready to participate. Tennis shoes, shorts, t-shirts (or appropriate outdoor wear). No food or drink of any kind will be allowed in the laboratory area.
2. Labs will be available on Moodle. You MUST bring your copy to class!
3. Lab write up will be due the next time class meets.
4. Please answer questions correctly and completely. LAB WRITE UPS MUST BE TYPED! You can work together on most assignments in class, but assignments are to be done alone must be written up IN YOUR OWN WORDS!
5. Attendance is necessary since this is a participation type of class. Development of skills is a crucial component.
**Reports:**
Lab reports are required to be completed and must be typed. Handwritten reports (including graphs) will not be accepted! Data sheets may be handwritten. The lab report is due the week following each lab at the beginning of the class. Late assignments will NOT be accepted and will result in a zero grade.

Each lab has a required write-up. Generally these are in the form of:
- a. Answers to questions (analysis)
- b. Requested graphs or statistics, etc.
- c. Stand alone abstract (not required for all labs, so listen to directions)

**Grading:**
At the end of the term, each student will hand in a short letter which:
1) Requests a specific letter grade.
2) Justifies what the student has done to deserve the grade.

If the instructors feels that a different grade is deserved than the one the student requests, then the instructor may assign a grade that reflects a compromise between the grade earned and grade asked for.

Labs will be graded in a non-traditional manner. A (+) means the lab was excellent and little or no adjustments should be made to future labs. A (v) means the lab was an average lab based on the answers provided and work performed. A (-) means the lab was not sufficient or equivalent to a failing grade. A zero indicates failure to hand in a lab, or an absence.

**TEXT:** ACSM GUIDELINES for EXERCISE TESTING AND PRESCRIPTION; 8th Edition, Williams and Williams

Because each University has a unique lab and in some cases, limited equipment, there is not an appropriate text available for this course. The content has been structured based on the available equipment in our lab. Labs are available on Moodle, and must be printed out prior to class. Copies will not be made.

University required statement:
“All students must practice academic honesty. Academic misconduct is subject to an academic penalty by the course instructor and/or a disciplinary sanction by the University.

All Students need to be familiar with the Student Conduct Code. The Code is available for review online at http://www.umt.edu/SA/VP/SA/index.cfm/page/1321.”
LAB WRITE-UPS

LAB WRITE-UPS ARE TO BE DONE ALONE and are due the following week at the beginning of lab. You can consult each other but must hand in your own work. Any duplicate labs will be addressed by the Student Conduct Code and will receive zeros for that assignment.

For some labs in addition to answering the questions and representing your data for each lab, you are to prepare a brief lab report in the form of an abstract as follows (similar to the abstract format that you would read in professional journals). Typed or computer written abstracts are required, handwritten reports will not be accepted! Data sheets may be handwritten. However: ALL GRAPHS must be computer generated generally using Excel.

For your report, please staple or paperclip all pages together:
Abstract as the front page including first and last names of group members, if required.
Answers to questions / analysis
Required graphs, tables and worksheets.

Abstracts should contain the following in less than 350 words:
Title: Appropriate description of the current lab (come up with a appropriate title - 15 words max).
Introduction: This portion of the write-up is to describe the purpose of the investigation and the type of subjects being used.
Methods: Describe the way the data was collected, the general protocol, the instrumentation used and the general descriptive information of the subjects (i.e. college aged males (n=15) and college aged females (n=17) were used in the present investigation). Be brief!!
Results: Report the values obtained on the main variables of interest (i.e. means, statistical results). Use tables when possible.
Discussion: Discuss potential reasons for the obtained values/ results.
Conclusion: Statement of closing remarks, provide direction for further research based on your results.

SUGGESTIONS FOR WRITING A GOOD ABSTRACT:
1. An abstract should be informative.
2. An abstract should be self-explanatory without reference to other material, discussion, graphs or information that you might hand in with the abstract.
3. The abstract is a summary. It thus should include a short introduction, a purpose statement, summary of results, and a short discussion or conclusion.
4. Whenever possible use tables to summarize data.
5. The abstract should be no longer than one double spaced page in 10-12 point font with 1 inch margins. A good rule is 200 words with 350 MAXIMUM!
6. Abstracts (science) should be written in the past tense.
7. Writing style should be active vs. passive.
8. Each sentence should have a purpose and be reviewed for English grammar.

10. ABSTRACTS are one of the most difficult of writing assignments as they require clarity of thought, the ability to summarize what has been done and to pick out what was important. A good abstract excites (or at least tweaks the interest of) the reader to want to read the rest of the report!

EMERGENCY PREPAREDNESS AND RESPONSE

As members of a learning community we all have responsibilities for each other that extend beyond the teaching/learning experience and transcend our roles in that dimension. We are, as human beings, responsible for the protection and well-being of other members of our group, and one dimension of our individual and group responsibility in that area relates to how we prepare for, and respond to, emergencies. Toward that end, the following are important:

- In the event we need to evacuate the building, our primary route will be through the main west doors. If that exit is blocked we will exit down the east hall on the second floor and then down the stairs to the east exit by the parking lot.
- If you hear an alarm or are told to evacuate, always assume the emergency is real. Be sure to take coats, backpacks and valuables since the building may be closed for some time.
- Everyone should report to either the designated outdoor rally point or the indoor rally point (should conditions make it necessary to seek shelter in another building). Our outdoor rally point is in the area to the west of McGill Hall – at least 300 feet from the building exit. Our indoor rally point is in the Adams Center Lobby. We should reconvene as a group at the rally point so we can determine if anyone is missing. I will assign small groups to be responsible for each other and to notify me if they were absent should the need arise.
- Do not use elevators as a means of evacuating, and do not use cell phones until safely away from the building.
- As the instructor of this course, I would ask students who feel they may require assistance in evacuating to privately inform me of that need. Together we will preplan appropriate assistance.
- I would also request that students with a medical condition that could present an emergency privately inform me of that situation. Again, this notification is so we can preplan an appropriate response should an emergency occur.

As soon as the class roster stabilizes, I will route a sign-up sheet for students to identify whether or not they possess current first aid and/or CPR certification. This information will be passed on to the Facility Emergency Coordinator for use should a need for first aid expertise arise.
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<th>Week</th>
<th>Lab</th>
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<td>LAB 1 – Resting Blood Pressure</td>
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<td>Feb 3&lt;sup&gt;rd&lt;/sup&gt; to 7&lt;sup&gt;th&lt;/sup&gt;</td>
<td>LAB 1 – Exercise Blood Pressure</td>
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<td>LAB 2 – Resting and Exercise ECG</td>
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<td>Presidents Day No Lab</td>
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<td>LAB 5 – Go Red Testing Procedures</td>
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<td>Mar 31&lt;sup&gt;st&lt;/sup&gt; to Apr 4&lt;sup&gt;th&lt;/sup&gt;</td>
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