

Western University
Faculty of Health Sciences
School of Kinesiology

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academic counsellor.

My Course Description

This course will describe the major metabolic pathways associated with the transport and storage of substrate, and production of “energy equivalents” at rest and during different durations and intensities of exercise, as well as in other physiological or clinical conditions. In addition to describing individual steps in the pathways for carbohydrate and fat breakdown, utilization and synthesis, this course will examine regulation of these pathways in different tissues and in these various conditions, and how fuel use is integrated amongst tissues.

Learning Outcomes /Schedule:

Upon completion of this course students will be able to:

1. describe and explain the role of enzymes in metabolic pathways, and the different

mechanisms by which they are regulated

2. describe and explain the bioenergetic requirements of muscle
3. describe and explain the relationship between metabolism and exercise performance
4. describe individual steps in each of the metabolic pathways studied and identify key steps where pathway regulation occurs and how “regulation” is achieved
5. describe and explain the metabolic responses to exercise of different intensity and duration
6. understand metabolic interactions amongst muscle and other tissue and organ systems
7. use examples from the published literature to help in the understanding of metabolic responses to exercise
8. understand the relationship between metabolism and certain disease states

Required: PM Tiidus, AR Tupling, ME Houston. Biochemistry Primer for Exercise Science (4th ed). Human Kinetics, 2012.

Additional Course Material/Text :

Lectures will be posted on OWL. Additional supplementary materials will be posted as well.

Course Evaluation Summary:

Midterm I (Pending Approval: February 2nd, 2022-1:30-2:20pm) = 25%

Midterm II (Pending Approval: March 9th, 2022-1:30-2:20pm) = 25%

Final Exam (scheduled by the Registrar's office during the April examination period) = 50%

Exams will be a combination of multiple choice and short answer questions. Midterm examinations will be held during assigned lecture time.

Course Evaluation :

Assignments are due as stated in the course syllabus and will not be accepted late, except under medical or other compassionate circumstances. Submitting a late assignment without appropriate documentation will result in a zero (0) grade. A missed mid-term examination, without appropriate documentation will result in a zero (0) grade. Acceptable reasons might include hospital stays, serious illness, family emergencies (like serious accidents, illness or death) or similar circumstances

B) Computer marked multiple-choice tests and/or exams may be subject to submission for similarity review by software that will check for unusual coincidences in answer patterns that may indicate cheating.

3. Electronic Device Usage:

During Exams - Unless you have medical accommodations that require you to do so, or explicit permission from the instructor of the course, you may not use any of the following electronic devices during ANY of the tests, quizzes, midterms, examinations, or other in-class evaluations: cellphones, smart phones, smart watches, smart glasses, audio players or recorders of any sort, video cameras, video games, DVD players, televisions, laptop/notebook/netbook computers, flashlights or laser pointers.

During Lectures and Tutorials: Although you are welcome to use a computer during lecture and tutorial periods, you are expected to use the computer for scholastic purposes only, and refrain from engaging in any activities that may distract other students from learning. Please be respectful to your fellow students and turn the sound off. If the professor receives complaints from other students regarding noise or other disruptive behavior (e.g. watching videos on YouTube.com, updating your Facebook status, playing Solitaire), your classroom privileges will be revoked. From time to time, your professor may ask

The following conditions are in place for self-reporting of medical or extenuating circumstances:

- a. a maximum of two self-reported absences between September and April and one self-reported absence between May and August;
- b. any absences in excess of the number designated in clause a above will require students to present a Student Medical Certificate (SMC) or appropriate documentation supporting extenuating circumstances to the Academic Counselling unit in their Faculty of registration no later than two

8. Classroom Behaviour : Class will begin promptly at the time specified at the top of page one of this syllabus. In the event that you must arrive late, please enter the classroom with a minimal