



### Lab Schedule:

Each lab is run for 2 weeks. You attend one lab every 2 weeks.

**Week 1 of each lab; sections 2-4-6-8-10-12 (start week of Jan 15)**

**Week 2 of each lab; sections 3-5-7-9-11-13 (start week of Jan 22)**

### LAB TOPICS

Lab 1: Enzyme kinetics

Lab 2: Static lung volumes and ventilatory response to incremental exercise.

Lab 3: Oxygen uptake and carbon dioxide response to incremental exercise.

Lab 4: Muscle contractile properties

Evaluation: Evaluation of the student's progress in this course will be assessed via 2 mid-term exams, a laboratory exam and a **COMPREHENSIVE** final exam. Lecture examinations will be of the multiple choice type, whereas the laboratory exam will consist of short answers and calculative questions requiring data manipulation and evaluation.

| <b>Examination</b>       | <b>Value%</b> | <b>Date</b>           | <b>Room(s) TBA</b> |
|--------------------------|---------------|-----------------------|--------------------|
| Lecture Mid-term #1      | 20            | Thursday, February 8, | 5:30-6:45 P.M.     |
| Lecture Mid-term #2      | 20            | Thursday, March 15,   | 5:30-6:45 P.M.     |
| Laboratory Exam          | 15            | Thursday, April 5,    | 5:30-7:30 P.M.     |
| Laboratory Quizzes       | 5             |                       |                    |
| Final Comprehensive Exam | 40            | TBA                   |                    |

### Lecture Outline:

#### **Readings**

#### **Topic**

Chapters 2, 5 1.

#### METABOLISM DURING EXERCISE

- a. What is energy?
- b. Energy value in food
- c. Factors affecting energy production
- d. Anaerobic energy sources
  1. ATP
  2. CP
  3. Glycolysis
- e. Aerobic energy sources
  1. Carbohydrate
  2. Lipid
- f. Significance of various energy sources and foods
- g. Oxygen uptake
  1. indirect calorimetry
- h. Lactic acid production
- i. EPOC
- j. Metabolic causes of fatigue

Learning Objectives  
To be able to:

1. Identify the amount of energy derived from food of different types.
2. To understand those factors which may influence energy release.
3. Explain the basic energy stores, their power and capacity.
4. Identify and explain the anaerobic energy stores.
5. Understand the basic aerobic pathways for both carbohydrate and lipid metabolism.



Learning Objectives 1.

**Note: 1.**

See <https://studentservices.uwo.ca/secure/index.cfm> for specific policy and forms relating to accommodation.

3. **Grades:** Where possible assignment objectives and rubrics will be posted on OWL. Should you have a concern regarding the grade you received for an assignment or feel that it is unfair in any way, you must wait 24 hours from the receipt of the assignment to approach the instructor or TA. In doing so, please make an appointment and prepare in writing, with evidence, why you feel your grade is inappropriate. Please be aware that in requesting a grade reassessment, your grade could go up/down/or stay the same. Note that calculations errors (which do occur!) should

8. Laptops for the **purpose of typing lecture notes** are permitted in class, but please be respectful to your fellow students and turn the sound off. If I receive complaints from other students regarding noise or other disruptive behaviour (e.g., watching videos on YouTube.com, updating your Facebook status, playing Solitaire), your classroom laptop privileges will be revoked.