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<b>Instructor:</b> Dr. Brian MacIntosh	<b>Room:</b> KNB 132
<b>Phone:</b> 220-3421	<b>Days:</b> MWF
<b>Email:</b> brian.macintosh@ucalgary.ca	<b>Time:</b> 11:00 to 11:50 a.m.
<b>Office:</b> KNB 2212	<b>Course Website:</b> On Blackboard
<b>Office Hours:</b> by appointment	

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- Course Description:** The physiology of muscular exercise, physical conditioning, and training. The course will cover aspects of the nervous, muscular, cardiovascular, and respiratory systems and also present the material in the context of the effects of exercise on an integrated system. Short and long term adaptations to exercise will be examined relative to health and human activity.
- Course Objectives:**
1. To develop a basic understanding of acute human physiological response to exercise including the fundamental principles of cardiovascular physiology, muscle physiology and energy metabolism.
  2. To provide insight and understanding of the adaptive responses of the human body to chronic exercise stress.
  3. To provide the optimal experiential learning in a lab setting via investigation of the physiological responses of the human body to acute exercise stress.
  4. To enhance critical thinking, problem-solving and creative thinking through interactive lectures, group work in class and multiple lab assignments.
  5. To strengthen calculation and mathematical skills in the context of physiological systems.
  6. To develop written communication skills necessary for scientific inquiry.

**Required Textbook**

**Required Reading  
Materials:**

M<sup>o</sup>Ardle, W.D., Katch F., & Katch V. (2010). *Exercise Physiology: Energy, Nutrition, and Human Performance* (7<sup>th</sup> ed.). Philadelphia: Lippincott Williams & Wilkins.

**Resource Textbooks**

Fox, E.L., Bowers, R.W., & Keteyian, S. J. (1998). *The Physiological Basis for Exercise and Sport* (6<sup>th</sup> ed.). Dubuque, Iowa: WCB M<sup>o</sup>Graw-Hill Publishers.

Powers, S.K., and E.T., Howley. (2007). *Exercise Physiology: Theory and application to fitness and performance* (6<sup>th</sup> ed.). New York, NY: M<sup>o</sup>Graw-Hill Publishers.

Wilmore, J.H., Costill D.L. & W.L. Kenney (2011). *Physiology of Sport and Exercise* (5<sup>th</sup> ed.). Champaign, IL: Human Kinetics

**Contacting the  
Instructor:**

Students requiring assistance are encouraged to speak with their instructor immediately after class. Should you wish to meet with the instructor at another time, please phone or email the instructor to make an appointment.

Email, is the most effective method of communication with your instructor, but the volume of e-mail received may slow the response time. If you have not received a suitable response within 24 hour, resend your request or contact the instructor by

phone.

**Grading Scale:**

Grade	Percent	Grade Point Value	Description
A+	93.0 & above	4.00	Outstanding
A	89.0-92.9	4.00	Excellent - superior performance, showing comprehensive understanding of subject matter.
A-	85.0-88.9	3.70	
B+	81.0-84.9	3.30	
B	77.0-80.9	3.00	Good-clearly above average performance with knowledge of subject matter generally complete.
B-	73.0-76.9	2.70	
C+	69.0-72.9	2.30	
C	65.0-68.9	2.00	Satisfactory – basic understanding of the subject matter. Grade point average below 2.00 is not sufficient for promotion.
C-	61.0-64.9	1.70	Minimum grade required if needed as a prerequisite
D+	55.0-60.9	1.30	
D	50.0-54.9	1.00	Minimal pass – marginal performance; generally insufficient preparation for subsequent courses in the same subject.
F	49.9 & below	0	Fail – unsatisfactory performance or failure to meet course requirements.

**Evaluation of Course Content:**

Midterm Exam – <b>Monday, October 22, 2012</b>	23%
Final Exam - (set by registrar)	37%
Laboratory Component	40%
	100%

**Late Policy:**

Please see KNES 373 Lab Schedule and Lab Manual for requirements for submitting assignments.

**Final Examination:**

To be scheduled by Registrar's Office.

**Additional Course Information:**

**Laboratory Requirements**

1. Attendance and active participation for all laboratory sessions including the Orientation Lab is **MANDATORY**. Anyone missing the Orientation Lab will not be able to attend any other labs. Anyone arriving after the start time of any lab is considered absent. Absent students will not be eligible to write quizzes or hand in assignments corresponding with the lab missed. Absent students will not qualify to meet the lab requirements for this class.
2. The first lab (Orientation Lab) will be during the week of September 17th. As per above, **anyone who does not attend their assigned "Orientation Lab" will not be able to attend any subsequent labs.**
3. Students must attend the lab section in which they are registered
4. Lab Schedule: As outlined in Fall 2012. Lab Manual
5. Lab Location: KNB 102
6. Lab manuals will be available at Bound & Copied in the Students' Union

Centre for approximately \$19.00.

7. A laboratory mark of **less than 50% (20/40) will result in a grade of F** for the entire course.
8. There is one mandatory **Lab Exam: Thursday, November 15<sup>th</sup>, from 6:30 – 8:30pm**  
**Only medically accepted exemptions will be considered.**

### **General Information**

1. **For volunteers serving as subjects** - An informed consent will be given to you prior to any physiological testing for which you serve as a subject. Its purpose is to give you the basic idea of what the physiological testing entails and what your participation will involve. The informed consent must be signed by you and witnessed before you can serve as a subject.
2. **Physical Limitations** - All students are expected to participate as subjects during the lab component of this course. It should be noted that the activity demands of the lab component of this course can be harmful to a student with physical limitations. It is the student's responsibility to inform the instructor of any physical limitations (including a recent positive Par-Q) **PRIOR** to participating in any activity. Appropriate activity modifications will be made to accommodate these students.

**Tentative Course Content**

<b>Lab topic</b>	<b>Date</b>	<b>lecture topic</b>	<b>chapter</b>
	10-Sep	Introduction	
	12-Sep	power/work	articles
	14-Sep	muscle structure	18
<b>Orientation</b>	17-Sep	Muscle Contraction	18
	19-Sep	Muscle Contraction	18
	21-Sep	Motor unit and fibre types	19
<b>Power/work</b>	24-Sep	Neural control of muscle contraction	19
	26-Sep	Neural control of muscle contraction	19
	28-Sep	Body composition	28
<b>Body Comp</b>	01-Oct	Body composition	28
	03-Oct	energy	4-5
	05-Oct	Thanksgiving	
<b>Anaerobic Power</b>	08-Oct	Energy; include measures of anaerobic power	6
	10-Oct	Energy systems: immed, shrt term and lng term	7
	12-Oct	Energy-measure oxygen uptake	8
<b>Oxygen Uptake</b>	15-Oct	Energy	9
	17-Oct	Energy	10
	19-Oct	Energy VO2 max	
<b>no lab</b>	22-Oct	MT exam	11
	24-Oct	Ventilation	12-13
	26-Oct	Ventilation	14
<b>Pt 2 Oxygen Uptal</b>	29-Oct	anaerobic thr	article
	31-Oct	Cardio	15
	02-Nov	Cardio	16
<b>Max VO2</b>	05-Nov	Cardio	16
	07-Nov	cardio	17
	09-Nov	cardio	17
<b>Lab Exam</b>	12-Nov	reading days	
	14-Nov	endocrine	20
	16-Nov	training	21
<b>Predict VO2max</b>	19-Nov	training	21
	21-Nov	strength training	22
	23-Nov	strength training	22
<b>Anaerbic Thr</b>	26-Nov	Elite athlete physiology	article
	28-Nov	Elite athlete physiology	article
	30-Nov	ergogenic aids	23
<b>review exam</b>	03-Dec	ergogenic aids	23
	05-Dec	thermal stress	25
	07-Dec	molec biol	33

## Supplementary Course Information

*In accordance with the University of Calgary Calendar*

**Academic  
Accommodation  
Awareness  
Information:**

It is the student's responsibility to request academic accommodation. If you are a student with a documented disability who may require academic accommodation and have not registered with the Disability Resource Centre, please contact their office at 220-8237. You are also required to discuss your needs with your instructor no later than fourteen (14) days after the commencement of this course. Students who have not registered with the Disability Resource Centre are not eligible for formal academic accommodation.

**Plagiarism/Cheating/Other Academic Misconduct:  
(see Calendar)**

A single offence of cheating, plagiarism, or other academic misconduct is a serious act that will not be tolerated in the Faculty of Kinesiology. Penalties for such acts will be determined by the Dean and may result in a failing grade, probation, suspension, or expulsion. Any student who is uncertain if an action falls into this category should consult the instructor and/or the Calendar.

**Midterm Exam Policy:**

The Faculty of Kinesiology policy is that all students are expected to write midterm exams on the dates listed on the course outline. Special accommodation may be granted by the instructor in **exceptional circumstances only** which include illness, participation in athletic events (varsity, national or international), domestic affliction, and religious conviction. It is the student's responsibility to supply proper documentation and/or notification **prior** to the originally scheduled midterm to support their circumstance. Personal travel plans and arrangements are **not** valid reasons for requesting a special accommodation for a midterm exam. Failure to comply with this policy will result in a grade of zero for the midterm and possible failure in the course.

**FOIP Policy:**

Please note that the University is under the jurisdiction of the provincial Freedom of Information and Protection of Privacy (FOIP) Act. Please refer to the website for details: <http://www.ucalgary.ca/secretariat/privacy>

**Internet and Electronic  
Communication Device  
Information:**

Any surfing of the Internet during lectures that is not directly related to the class discussion is distracting and strictly forbidden. Additionally, the use of any electronic devices (e.g., cellular phones, Blackberrys) for e-mailing, texting, etc. is strictly prohibited. Please turn OFF your phone before the beginning of each lecture.

Instructors have the authority, at the discretion of the dean of their faculty, to require that specific course assignments, term papers and academic exercises be submitted in an electronic format. Instructors cannot require that multiple copies of an assignment be submitted.

**Emergency  
Evacuation/Assembly  
Points:**

For classes in the Kinesiology buildings Primary assembly point is the MacEwan Student Centre - North Courtyard and the Alternate assembly point is University Theatres Lobby

**Safewalk Information:**

Safewalk volunteers walk people safely to their destination on campus (including Health Sciences, Children's Hospital, McMahon Stadium, and University LRT station). This service is free and available to students, staff and campus visitors. Call 403-220-5333 (24 hours a day/7 days a week/365 days a year).

**Students' Union:**

The Kinesiology Representative is Calindy Ramsden-  
E-mail: [kinesrep@su.ucalgary.ca](mailto:kinesrep@su.ucalgary.ca).