

Instructor: Dr. Dustin Hittel
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Office: KNB 422
Office Hours: By Appointment

Room: KNB 133
Days: Mon, Wed, Fri
Time: 13:00-13:50
Course Website: Blackboard

Course Description:	<p><i>“Physiological effects of temperature and humidity fluctuations; principles of heat generation, conservation and transfer; acute and chronic effects of hypo and hyperbarometric pressures; special dietary considerations; and associated physio-psychological implications will be examined.”</i> In this course we will explore the molecular, biological and physiological basis of human adaptation to a wide range of environmental stresses. These explorations will be informed by the lessons learned from studying nature’s extremophiles. These lessons will be applied to our understanding of human physiological adaptations to environmental extremes such as heat, cold, pressure and exercise.</p>
Course Objectives:	<ol style="list-style-type: none">1. To gain an understanding of adaptive mechanisms to environmental stresses such as extremes in temperature, altitude as well as those evoked by exercise, obesity and inactivity.2. To apply principles of comparative human physiology & biochemistry in a small group-learning environment and to become comfortable with oral presentations.
<u>Suggested Reading</u> Materials:	<p>Ashcroft F. <u>Life at Extremes: The Science of Survival</u>. HarperCollins Canada, 2000. Ebook available from Kobo and Kindle.</p>
Contacting the Instructor:	<p>Students requiring assistance are encouraged to speak with their instructor during class or office hours. Should you wish to meet with the instructor outside of office hours, please phone or email the instructor to make an appointment.</p> <p>Email, while commonly used, does limit the effectiveness of communications and may not be the best way for instructors to answer student questions. Therefore, the instructor may request a telephone call or personal meeting. Your instructor will inform you as to his/her expectations about emails.</p>

Late Policy: All assignments are due at the beginning of class. Any assignment handed in after that time is subjected to a 10% penalty (of assignment value) per day charge including each weekend day. The new day begins at 4:30 p.m. Assignments will not be accepted after 5 days late.

Final Examination: None

Additional Course Information: None

Course Content:

KNES 465 Lecture & Exam Schedule – 2012 (Subject to Modification)

All lectures and examinations will take place in KNB 133 between 1300 and 13:50 hrs.

#	Unit	Date	Lecture	Instructor
I		M 10 Sept	Introduction Course Content Term Paper Topics	Dr. D. Hittel
1		W 12 Sept	Environmental Stress and the Origins of Life	Dr. D. Hittel
2		F 14 Sept	Life in the Freezer - Ice	Dr. D. Hittel
3		M 17 Sept	Life in the Freezer - Cold	Dr. D. Hittel
4		W 19 Sept	Life in the Freezer - BAT	Dr. D. Belke
5		F 21 Sept	Life in the Furnace - Dehydration	Dr. J. Shearer
6		M 24 Sept	Life in the Furnace - Thermophiles	Dr. D. Hittel
7		W 26 Sept	AV Day #1	Dr. D. Hittel
8		F 28 Sept	Life Without Oxygen – Aerobic & Anaerobic Respiration	Dr. D. Hittel
9		M 01 Oct	Life Without Oxygen – Diving & Hyperbaria	Dr. D. Hittel
10		W 03 Oct	Life Without Oxygen - Altitude	Dr. D. Hittel
11		F 05 Oct	Exam 1 (30%)	Dr. D. Hittel
12		M 08 Oct	Thanksgiving – No Lecture	Dr. D. Hittel
13		W 10 Oct	Exams Returned & Course Review #1	Dr. D. Hittel
14		F 12 Oct	AV Day # 2	TBA
15		M 15 Oct	Obesity & Metabolic Syndrome	Dr. D. Hittel
16		W 17 Oct	Type 2 Diabetes	Dr. D. Hittel
17		F 19 Oct	Exercise Management of Obesity and Type 2 Diabetes	E. Gnatiuk
18		M 22 Oct	Adaptation to Exercise - Hypertrophy	Dr. D. Hittel

19		W 24 Oct	Adaptation to Exercise - Atrophy	Dr. D. Hittel
20		F 26 Oct	Adaptation to Exercise – The Benefits Of	Dr. D. Hittel
21		M 29 Oct	Adaptation to Exercise - Limits of Human Performance	Dr. J. Shearer
22		W 31 Oct	Genetics – History & Technology	Dr. D. Hittel
23		F 02 Nov	AV Day #3	Dr. D. Hittel
24		M 05 Nov	Genetics – Evolution & Human Migration	Dr. D. Hittel
25		W 07 Nov	Genetics - Common Diseases	Dr. D. Hittel
26		F 09 Nov	Reading Days – No Lecture	
27		M 12 Nov	Genetics - Human Performance	Dr. D. Hittel
28		W 14 Nov	Adaptation to Space - Present	Dr. D. Hittel
29		F 16 Nov	Adaptation to Space - Future	Dr. D. Hittel
30		M 19 Nov	Adaptation to Environmental Pollution	Dr. D. Hittel
31		W 21 Nov	Course Review #2	Dr. D. Hittel
32		F 23 Nov	Exam 2 (30%)	Dr. D. Hittel
33		M 26 Nov	Group Hand In Term Paper (30%) Presentations	You
34		W 28 Nov	Group Presentations	You
35		F 30 Nov	Group Presentations	You
36		M 03 Dec	Group Presentations	You
37		W 05 Dec	Group Presentations	You
38		F 07 Dec	Group Presentations	You

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 <u>are not</u> eligible for formal academic accommodation.
Plagiarism, Cheating and Other Academic Misconduct: (see Calendar)	A <u>single</u> 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 <u>exceptional circumstances only</u> 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 <u>prior</u> to the originally scheduled midterm to support their circumstance. Personal travel plans and arrangements are <u>not</u> 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).
Student's Union:	The Kinesiology Representative is Calindy Ramsden - Phone: 220-2913 or E-mail: kinesrep@su.ucalgary.ca