



ORIGINAL COURSE IMPLEMENTATION DATE: September 2001  
 REVISED COURSE IMPLEMENTATION DATE: September 2018  
 COURSE TO BE REVIEWED: (six years after UEC approval) March 2024  
 Course outline form version: 09/15/14

## OFFICIAL UNDERGRADUATE COURSE OUTLINE FORM

Note: The University reserves the right to amend course outlines as needed without notice.

<b>Course Code and Number:</b> KIN 435	<b>Number of Credits:</b> 3 <a href="#">Course credit policy (105)</a>																
<b>Course Full Title:</b> Ergonomics and Occupational Biomechanics																	
<b>Course Short Title (if title exceeds 30 characters):</b> Ergonomics/Occupation Biomech																	
<b>Faculty:</b> Faculty of Health Sciences	<b>Department (or program if no department):</b> Kinesiology																
<b>Calendar Description:</b> Explores human factors as they relate to human-machine interactions in the workplace, and includes an examination of the physical work environment, adaptation of the environment and equipment to the worker to enhance worker comfort, equipment design, and the tasks involved in an ergonomic assessment of the workplace.  Note: Students with credit for KPE 435 cannot take this course for further credit.																	
<b>Prerequisites (or NONE):</b>	KIN 215 (formerly KPE 215).																
<b>Corequisites (if applicable, or NONE):</b>	NONE																
<b>Pre/corequisites (if applicable, or NONE):</b>	NONE																
<b>Equivalent Courses (cannot be taken for additional credit)</b> Former course code/number: <b>KPE 435</b> Cross-listed with: Equivalent course(s): <b>KPE 435</b> <i>Note: Equivalent course(s) should be included in the calendar description by way of a note that students with credit for the equivalent course(s) cannot take this course for further credit.</i>	<b>Transfer Credit</b> Transfer credit already exists: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No  Transfer credit requested (OREg to submit to BCCAT): <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No (if yes, fill in transfer credit form)  Resubmit revised outline for articulation: <input type="checkbox"/> Yes <input type="checkbox"/> No  To find out how this course transfers, see <a href="http://bctransferguide.ca">bctransferguide.ca</a> .																
<b>Total Hours: 45</b> <b>Typical structure of instructional hours:</b> <table border="1" style="width: 100%; border-collapse: collapse; margin-top: 5px;"> <tr><td>Lecture hours</td><td style="text-align: center;">45</td></tr> <tr><td>Seminars/tutorials/workshops</td><td></td></tr> <tr><td>Laboratory hours</td><td></td></tr> <tr><td>Field experience hours</td><td></td></tr> <tr><td>Experiential (practicum, internship, etc.)</td><td></td></tr> <tr><td>Online learning activities</td><td></td></tr> <tr><td>Other contact hours:</td><td></td></tr> <tr><td style="text-align: right;"><b>Total</b></td><td style="text-align: center;"><b>45</b></td></tr> </table>	Lecture hours	45	Seminars/tutorials/workshops		Laboratory hours		Field experience hours		Experiential (practicum, internship, etc.)		Online learning activities		Other contact hours:		<b>Total</b>	<b>45</b>	<b>Special Topics</b> Will the course be offered with different topics? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No  If yes, different lettered courses may be taken for credit: <input type="checkbox"/> No <input type="checkbox"/> Yes, repeat(s) <input type="checkbox"/> Yes, no limit  <i>Note: The specific topic will be recorded when offered.</i>  <b>Maximum enrolment (for information only):</b> 36  <b>Expected frequency of course offerings (every semester, annually, every other year, etc.):</b> once annually
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Other contact hours:																	
<b>Total</b>	<b>45</b>																
<b>Department / Program Head or Director:</b> Alastair Hodges	<b>Date approved:</b> October 2017																
<b>Faculty Council approval</b>	<b>Date approved:</b> October 2017																
<b>Campus-Wide Consultation (CWC)</b>	<b>Date of posting:</b> November 24, 2017																
<b>Dean/Associate VP:</b> Joanne MacLean	<b>Date approved:</b> October 2017																
<b>Undergraduate Education Committee (UEC) approval</b>	<b>Date of meeting:</b> March 23, 2018																

**Learning Outcomes**

Upon successful completion of this course, students will be able to:

1. Describe the anatomical and anthropometrical factors and how they relate to ergonomic design.
2. Apply and measure physiological and psycho-social factors related to the work environment.
3. Critique and evaluate ergonomically appropriate solutions related to the work place.
4. Explain the mind-body-environment relationship and its effect on workplace safety and productivity..
5. Examine and evaluate solutions to various workplace settings.
6. Describe the role of and learn how to use assessment tools in ergonomics.
7. Explain the pathogenesis of and apply preventative measures for commonly encountered workplace musculo-skeletal injuries.

**Prior Learning Assessment and Recognition (PLAR)**

Yes       No, PLAR cannot be awarded for this course because

**Typical Instructional Methods (guest lecturers, presentations, online instruction, field trips, etc.; may vary at department's discretion)**

Lectures, group work, field work.

**Grading system:** Letter Grades:  Credit/No Credit:  Labs to be scheduled independent of lecture hours: Yes  No

**NOTE: The following sections may vary by instructor. Please see course syllabus available from the instructor.**

**Typical Text(s) and Resource Materials (if more space is required, download Supplemental Texts and Resource Materials form)**

Author (surname, initials)	Title (article, book, journal, etc.)	Current ed.	Publisher	Year
1. McCauley Bush, P.	Ergonomics, Foundational Principles, Applications, and Technologies	<input checked="" type="checkbox"/>	CRC Press	2012
2. Bridger, R.S.	Introduction to Ergonomics	<input checked="" type="checkbox"/>	CRC Press	2009
3.		<input type="checkbox"/>		
4.		<input type="checkbox"/>		

**Required Additional Supplies and Materials (software, hardware, tools, specialized clothing, etc.)****Typical Evaluation Methods and Weighting**

Final exam:	25%	Assignments:	20%	Midterm exam:	20%	Practicum:	%
Quizzes/tests:	15%	Lab work:	%	Field experience:	%	Shop work:	%
Group project:	20%	Other:	%	Other:	%	Total:	100%

**Details (if necessary):**

**Typical Course Content and Topics**

1. Introduction to ergonomics, system design, task analysis, development ergonomic programs  
Body mechanics at work
2. Repetitive tasks and work related musculo-skeletal injuries
3. Manual material handling tasks
4. Information processing, displays and controls, and design of things
5. Anthropometrics
6. Workspace design
7. Physically demanding work  
Psycho-social and organizational factors, shiftwork
8. Environmental factors  
Human error, accidents and safety
9. Warning labels, instructions and product liability  
Ergonomics research in health care