

IND 406 – Ergonomics and Safety Engineering

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 Other appointments may be arranged

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Course Web Page: <https://my.ryerson.ca>

Lectures: Thursdays: 10:00 am – 12:00 pm (EPH 225)
 Fridays: 1:00 pm – 2:00 pm (ENGLG24)

Tutorials (Labs): Note the Schedule on Page 4 of the Supplement (KHE 137)

Course Evaluation:

Component	Weight
Term Work	15%
Team Projects	25%
Mid-Term Exam	20%
Final Exam	40%
TOTAL	100%

Term Work: There are two components to the term work: (1) Quizzes and (2) Assignments.

- Quizzes: There will be three quizzes. Each quiz is worth 3%.
- Assignments: There will be two assignments. Each is worth 3%.

The quizzes will be conducted as per the schedule on page 4 of the supplement. Further details on the quizzes and assignments will be provided in class.

Project: All students will be required to complete a team project. There are four components to the team project: (1) Project Proposal, (2) Progress Report, (3) Final Paper, and (4) Final Presentation. Students will also be required to complete a peer review.

Exams: The mid-term and final exams are closed-book. The mid-term exam will be two (2) hours. The final exam will be three (3) hours. Everything covered in class, the lecture slides, the required readings, the projects, or additional handouts may be tested. Additional details on the exam will be provided prior to the exam date.

As a guideline, the following grading scale will be used:

A+	90.0 – 100%	C	60.0 – 62.9%
A	85.0 – 89.9%	C-	57.0 – 59.9%
A-	80.0 – 84.9%	D+	54.0 – 56.9%
B+	75.0 – 79.9%	D	52.0 – 53.9%
B	70.0 – 74.9%	D-	50.0 – 51.9%
B-	66.0 – 69.9%	F	0 – 49.9%
C+	63.0 – 65.9%		

Lecture Slides:

The PowerPoint slides for each session will be posted prior to the lecture in PDF format.

Questions:

Electronic means of communication are preferred for questions regarding lectures, projects, quizzes, and exams. To foster promptness in responding, please send questions from a Ryerson University account with "IND 406" in the message subject line. If you do not receive a response within one business day, please feel free to send a follow-up email.

Class Attendance:

Class attendance is expected, but no attendance is taken. If for some reason a student should miss a class or lab, it is the student's responsibility to:

1. Inform themselves of any administrative announcements (e.g. schedule changes) discussed during a session.
2. "Make-up" any of the course material covered in the session. This is of particular importance as there will be material presented in the sessions that may not be covered adequately in the textbook.

Class Conduct:

Please make every attempt to be in class on time. For the sake of your colleagues, please do not hold private conversations or eat any food in class. If the need to talk or eat is overwhelming, please exit discretely.

Academic and Non-Academic Conduct:

All participants in the course are required to adhere to all relevant Ryerson University policies. Students are particularly encouraged to familiarize themselves with the Ryerson University Student Codes of Academic Conduct and Non-academic Conduct.

The Student Code of Academic Conduct is available at:

<http://www.ryerson.ca/senate/policies/pol60.pdf>

The Student Code of Non-academic Conduct is available at:

<http://www.ryerson.ca/senate/policies/pol61.pdf>

Other Ryerson University policies, including the course management policy, are available at:

<http://www.ryerson.ca/senate/policies>

Tentative Course Schedule:

The tentative course schedule is provided in the table on the following page. Every attempt is made to provide a schedule that is complete and that provides an accurate overview of the course. However, circumstances and events may make it necessary to modify the schedule during the semester.

IND 406 - COURSE OUTLINE SUPPLEMENT - FALL 2009

Class Number & Date	Tentative (!) Lecture Topic	Reading
1 September 10	<ul style="list-style-type: none"> Course Outline and Supplement Review. Introduction to Human Factors and Ergonomics. 	Chapter 1
2 September 11	<ul style="list-style-type: none"> Cost Benefit Analysis. 	Chapter 2
3 September 17	<ul style="list-style-type: none"> Conducting a Human Factors Investigation. Review of Assignment Requirements. 	Chapter 3
4 September 18	<ul style="list-style-type: none"> Vision and Illumination Designs. 	Chapter 4
5 September 24	<ul style="list-style-type: none"> Human Information Processing. Quiz 1. 	Chapter 5
6 September 25	<ul style="list-style-type: none"> Design of Controls, Displays, and Symbols. 	Chapter 6
7 October 1	<ul style="list-style-type: none"> Design of Human-Computer Interaction. Review of Quiz 1. 	Chapter 7
8 October 2	<ul style="list-style-type: none"> Anthropometry in Workstation Design. 	Chapter 8
9 October 8	<ul style="list-style-type: none"> Work Posture. Physical Workload and Heat Stress. 	Chapter 9 Chapter 11
10 October 9	<ul style="list-style-type: none"> Manual Materials Handling. 	Chapter 10
11 October 15	<ul style="list-style-type: none"> Repetitive Motion Injury and Design of Hand Tools. Quiz 2. 	Chapter 11
12 October 16	<ul style="list-style-type: none"> Noise and Vibration. 	Chapter 13
13 October 22	<ul style="list-style-type: none"> Ergonomics of Computer Workstations. Review of Quiz 2. 	Chapter 14
14 October 23	<ul style="list-style-type: none"> Review for Mid-Term Exam. 	No reading
15 October 29	<ul style="list-style-type: none"> Mid-Term Exam. 	No reading
16 October 30	<ul style="list-style-type: none"> Review of Mid-Term Exam. 	No reading
17 November 5	<ul style="list-style-type: none"> Training, Skills, and Cognitive Task Analysis. Shift Work. 	Chapter 15 Chapter 16
18 November 6	<ul style="list-style-type: none"> Design for Manufacture and Maintenance. 	Chapter 17
19 November 12	<ul style="list-style-type: none"> Accidents, Human Errors, and Safety. 	Chapter 18
20 November 13	<ul style="list-style-type: none"> Health and Safety Management. 	CSA Z1000
21 November 19	<ul style="list-style-type: none"> Health and Safety Management. Quiz 3. 	CSA Z1000
22 November 20	<ul style="list-style-type: none"> Project Presentations. Final Project Report Due. 	No reading
23 November 26	<ul style="list-style-type: none"> Project Presentations. Review of Quiz 3. 	No reading
24 November 27	<ul style="list-style-type: none"> Project Presentations. 	No reading
25 December 3	<ul style="list-style-type: none"> Course Wrap-up. Review for Final Exam. 	No reading

Tentative Tutorial Schedule:

The tentative tutorial schedule is provided in the table below. The tutorial sessions are focused on the team projects. Every attempt is made to provide a schedule that is complete and that provides an accurate overview of the course. However, circumstances and events may make it necessary to modify the schedule during the semester.

Tutorial No. & Date	Tentative (!) Topic
1 September 16	<ul style="list-style-type: none"> • Introduction to the Course Project. • Selection of Teams.
2 September 23	<ul style="list-style-type: none"> • Focusing Your Project. • Review of Requirements for Project Proposal.
3 September 30	<ul style="list-style-type: none"> • Project Proposal Due. • Selection of Presentation and Meeting Dates.
4 October 7	<ul style="list-style-type: none"> • Conducting a Literature Review. • Review of Requirements for Progress Reports.
5 October 14	<ul style="list-style-type: none"> • Progress Report Presentations (Groups 1-5).
6 October 21	<ul style="list-style-type: none"> • Progress Reports Presentations (Groups 1-5).
7 October 28	<ul style="list-style-type: none"> • Team Meeting with Professor (Groups 1-5).
8 November 4	<ul style="list-style-type: none"> • Team Meeting with Professor (Groups 5-10).
9 November 11	<ul style="list-style-type: none"> • Bonus Mark Presentations.
10 November 18	<ul style="list-style-type: none"> • Bonus Mark Presentations.
11 November 25	<ul style="list-style-type: none"> • Lab Tour (EPH 344).

Further details on the team projects and bonus mark assignment will be provided in the labs.