



**COURSE OUTLINE**  
**CENG412 – Human Factors in Engineering**  
**Summer 2009**

**Instructor:**

Dr. Alexandra Branzan Albu  
Phone: 721-8681  
E-mail: aalbu@uvic.ca

**Office Hours:**

Days: Tuesday, Thursday  
Time: 3:00-4:00 pm  
Location: ECS 631

**Lectures:**

Days: Mondays, Thursdays  
Time: 1:00 pm -2:20 pm  
Location: ECS 104

**Required Text:**

Title: An Introduction to Human Factors Engineering  
Author: C. D. Wickens, J. D. Lee, Y. Liu, S. E. Gordon Becker  
Publisher: Pearson-Prentice Hall  
Year: 2004

**References:**

Additional readings will be posted on the course web site. These readings are mandatory.

**Assessment:**

|                      |     |
|----------------------|-----|
| 2 Mid-terms:         | 30% |
| In-class activities: | 20% |
| 2 Assignments:       | 20% |
| Project:             | 30% |

**Mid-terms:** There will be two midterms in this course worth 15% each to be done in class (note: no final exam). The proposed dates for the midterms are: **June 1, and July 23**. Collectively, the two midterms are worth 30% of the final grade. Students must pass the combined mark of the midterms to pass the course.

**In-class activities:** These activities will be performed in small groups of approx. 4 students. They consist in solving human factors-related case studies, as well as in other activities that support active learning. The mark for in-class activities will be based on attendance and level of participation to the team work. The level of participation will be based on instructor's in-class observations, on the student's self-assessment, and on a peer review performed by the team members.

**Assignments:**

| Assignment | Weight | Assigned Date<br>(tentative) | Due Date<br>(tentative) |
|------------|--------|------------------------------|-------------------------|
| 1          | 10%    | May 14                       | May 24                  |
| 2          | 10%    | June 18                      | July 4                  |

## Project:

There will be one design project (worth 30% of the final grade) completed in small groups of students (approx. four students per team). Students are expected to contribute equally to the project. A team-based description of each student's participation will be one of the final report's requirements and as such will have a bearing on the grade.

*The general theme of the project consists in the redesign of a user/system interface of your choice.*

The project proposal needs to identify the human factors issues that will be the basis of your analysis and redesign, the user needs that you are targeting, and the approach you will use to solve the problem. I reserve the right to reject project proposals in case it does not meet minimal standards.

Project proposals (worth 5 % of the project mark) will be due on **May 25**.

There will be several milestones to each project. Students are expected to contribute to all milestones.

- User and Task analysis
- Iterative design and prototyping (2 in-class sessions)
- Usability Evaluation of the final prototype
- Final oral presentation and report

The project presentations will be held during the last week of classes and the report will be due at the end of term (exact date to be determined).

The final grade obtained from the above marking scheme will be based on the following percentage-to-grade point conversion:

90 ≤ A+ ≤ 100

85 ≤ A < 90

80 ≤ A- < 85

75 ≤ B+ < 80

70 ≤ B < 75

65 ≤ B- < 70

60 ≤ C+ < 65

55 ≤ C < 60

50 ≤ D < 55

35 ≤ E < 50

F < 35

N

Fail, conditional supplemental exam\* - for undergraduate courses only.

Fail, no supplemental exam.

Fail, did not write examination or otherwise complete course requirements by the end of the term or session; no supplemental exam.

\* The rules for supplemental examinations are found on page 76 of the current 2005/06 Undergraduate Calendar.

| For courses taken in | Application Deadline for Supplemental Exam | Supplemental Exam Date                           |
|----------------------|--------------------------------------------|--------------------------------------------------|
| January – April      | June 30                                    | First week of classes in September-December term |
| May – August         | October 31                                 | First week of classes in January-April term      |
| September – December | February 28                                | First week of classes in May-August term         |

Deferred examination schedules use the same dates as supplementals in the table above.

*Late Assignments:* Late assignments will not be accepted without a doctor's note.

*Cheating:* Students caught cheating will receive a failing grade in this course. Assignments are to be completed individually -- they should not be discussed with your peers.

*To pass the course:* Students must pass the combined mark of the midterms to pass the course.

*Coursework Mark Appeals:* All marks must be appealed in writing (not by email) within 7 days of the mark being posted.

*Plagiarism:* Submitted work may be checked using plagiarism detection and text-matching software (such as turnitin). Moreover, if material is reused from other sources it should be appropriately referenced (failure to do so will result in a failing grade in the course). Cheating, plagiarism and other forms of academic fraud are taken very seriously by both the University and the Department. You should consult <http://web.uvic.ca/calendar2004/FACS/UnPr/UARe/PoAcI.html> for the UVic policy on academic integrity. Note that the university policy includes the statement that "A largely or fully plagiarized assignment should result in a grade of F for the course".

*Attendance:* According to university policy, students are expected to attend all classes. Important notices and material will be made available in class that will not be otherwise made available, it is a student's responsibility to have a fellow student take notes if they cannot attend a lecture.

*Assignments and Exams:* may be refused a passing grade if they are deficient in English. Please see the UVic policy for further information on this university policy:  
<http://web.uvic.ca/calendar2003/GI/AcRe/EoStA.html>

## **Syllabus**

As a result of taking this course, students will be able to:

- understand and apply the iterative user-centered and task-centered design paradigm
- perform a correct task and user analysis prior to the design or redesign of a product
- apply human factors principles to their own design projects
- explain the basic human systems of cognition and perception (vision and hearing) and how that affects engineering design
- design displays and controls which properly respond to human attributes
- design human computer interfaces for information processing and control

## **Posting of Grades**

The Department of Electrical and Computer Engineering will no longer post grades. Students may access their grades via the Internet at <http://www.uvic.ca/reco/> and selecting WebView (Student Records On-Line).

## **Guidelines on Religious Observances**

1. Where classes or examinations are scheduled on the holy days of a religion, students may notify their instructors, at least two weeks in advance, of their intention to observe the holy day(s) by absenting themselves from classes or examinations.
2. Instructors will provide reasonable opportunities for such students to make up work or missed examinations.
3. Students will cooperate by accepting the provision of reasonable opportunities for making up work or missed examinations.
4. The University Secretary's Office will distribute a multi-faith calendar to each academic unit annually.

**Commitment to Inclusivity and Diversity**

The University of Victoria is committed to promoting, providing and protecting a positive, supportive and safe learning and working environment for all its members.

**Standards of Professional Behaviour**

You are advised to read the Faculty of Engineering document Standards for Professional Behaviour at <http://www.engr.uvic.ca/policy/professional-behaviour.html> which contains important information regarding conduct in courses, labs, and in the general use of facilities.