



Faculty of Science
Department of Computer Science
Course Outline (Fall 2017)

CPS 613 – Human-Computer Interaction

Instructor	Sophie Quigley Dept. of Computer Science, Ryerson University Office: ENG263 Tel: 416-979-5000, x7401, Email: cps613@scs.ryerson.ca Office Hours: Wednesdays 2:00-4:00PM
Prerequisites	CPS209
Calendar Description	This course introduces the concepts of human-computer interaction and usability testing. Topics include: human information processing, usability principles, models of interaction, user interface paradigms, design of user interfaces. Students will also learn how to develop Graphical User Interfaces using a specific User Interface Management system. Lect: 3 hrs., Lab: 2 hrs
Compulsory Textbook	Chapter 2 of "Developing User Interfaces" by Hix and Hartson. Copies of this chapter can be purchased at cost (about \$5-\$10) at the Ryerson bookstore. Ask for the custom printing of "Usability Guidelines" for CPS613.
Reference Textbooks	Interaction Design: Beyond Human-Computer Interaction 4th Edition by Jennifer Preece, Yvonne Rogers, Helen Sharp, Wiley, 2015 ISBN: 978-1-119-02075-2. The previous editions of this book are also OK.
Course Organization	3 hours of lecture per week for 12 weeks, 2 hours of labs.

Learning Objectives

- At the end of the course, a successful student will be able to:
1. Have a good understanding of human cognitive processes as they apply to interactions with software and technology.
 2. Have a basic understanding of the three dominant interaction paradigms and be able to select the most appropriate one for specific users and their systems.
 3. Have a good understanding of how to integrate principles of user-centered design in the software lifecycle, and in particular how to conduct formative usability testing.
 4. Have a basic understanding of UI design guidelines and proper usage of widgets.
 5. Develop GUIs in Visual Studio.

Course Evaluation

Assignments	20%
Labs	45%
Project	20%
Final	15%

Details

See <http://cps613.scs.ryerson.ca/F17/marking.shtml> for details

Course Technology

- Communications are conducted via D2L
- Other course information is posted on <http://cps613.scs.ryerson.ca/>
- Labs, assignments, and projects are developed in Visual Studio 2015

Evaluation Guidelines

- See <http://cps613.scs.ryerson.ca/> for details. In particular:
- labs 4 and 6 will be assessed during the lab session and attendance is therefore mandatory
 - The final exam questions is closed book but questions will be randomly selected from a posted set of questions.

Missed Evaluations

- Students are required to inform their instructors of any situation which arises during the semester which may have an adverse effect upon their academic performance, and must request any considerations and accommodations according to the relevant policies and well in advance. Failure to do so will jeopardize any academic appeals.
- *Medical certificates* – If a student misses the deadline for submitting an assignment, or the date of an exam or other evaluation component because of illness, he or she must submit a Ryerson Student Medical Certificate AND an Academic Consideration form within 3 working days of the missed date. Both documents are available at www.ryerson.ca/senate/forms/medical.pdf. If you are a full-time or part-time degree student, then you submit your forms to your own program department or school. If you are a certificate or non-certificate student, then you submit your forms to the staff at the front desk of the Chang School.
 - *Religious observance* – If a student needs accommodation because of religious observance, he or she must submit a Request for Accommodation of Student Religious, Aboriginal and Spiritual Observance AND an Academic Consideration form within the first 2 weeks of the class or, for a final examination, within 2 weeks

of the posting of the examination schedule. If the required absence occurs within the first 2 weeks of classes, or the dates are not known well in advance as they are linked to other conditions, these forms should be submitted with as much lead time as possible in advance of the required absence. Both documents are available at <http://www.ryerson.ca/senate/forms/reobservforminstr.pdf>. If you are a full-time or part-time degree student, then you submit the forms to your own program department or school. If you are a certificate or non-certificate student, then you submit the forms to the staff at the front desk of the Chang School.

- *Students who need academic accommodation support* should register with the Academic Accommodation Support office (formerly called the Access Centre). Before the first graded work is due, registered students should inform their instructors through an “Accommodation Form for Professors” that they are registered with Academic Accommodation Support and what accommodations are required.

Communication with Students

Ryerson’s email policy <http://www.ryerson.ca/content/dam/senate/policies/pol157.pdf> states that only Ryerson e-mail accounts are to be used for communication with students. All students, including continuing education students, have access to Ryerson email through their my.ryerson.ca site, and this is the official way in which they receive communication. All students are required to register for and maintain this account. ***Emails sent from other accounts may not be answered!***

Course Content

Topics (approximate hours)

Software Engineering:

- User-centered design and usability engineering (1 hour)
- Needs analysis and user profiles (5 hours)
- Formative evaluation (4 hours)
- Usability testing (10 hours)

UI Design:

- Interaction paradigms (3 hours)
- Conceptual models and metaphors (6 hours)
- Direct manipulation, menu-forms, and command-line (3 hours)

Cognitive Science:

- Human information processing and perception (5 hours)
- Memory (3 hours)
- Mental models (3 hours)

Visual Studio (6 hours)

Academic Policies

a. Ryerson Policies of Interest

- Ryerson Senate Policies - <http://www.ryerson.ca/senate/policies/>
- Ryerson Academic Integrity - <http://www.ryerson.ca/academicintegrity/>
- Policy 46 - Undergraduate Grading, Promotion and Academic Standing
- Policy 60 - Student Code of Academic Conduct
- Policy 61 - Student Code of Non-academic Conduct
- Policy 134 - Undergraduate Academic Consideration and Appeals

Policy 135 - Examination Policy

Policy 150 - Accommodation of Student Religious Observance Obligations

Policy 157 - Student Email Accounts for Official University Communication

- b. *Obligations* – Students need to inform faculty of any situation arising during the semester which may have an adverse effect upon their academic performance; they must request any necessary considerations (e.g. medical or compassionate), or accommodations [e.g. religious observance, disability (should be registered with the Access Center), etc.] according to policies and well in advance. Failure to do so will jeopardize any academic appeals.
- c. *Re-grading and Re-calculation* – Must be requested within 10 working days of the return of the graded assignment to the class.

Academic Conduct

<http://www.ryerson.ca/academicintegrity/>

In order to create an environment conducive to learning and respectful of others' rights, phones and pagers must be silenced during lectures, lab sessions and evaluations.

Students should refrain from disrupting the lectures by arriving late and/or leaving the classroom before the lecture is finished.

Academic Misconduct

According to the Ryerson policy 60

(<http://www.ryerson.ca/content/dam/senate/policies/pol60.pdf>), academic misconduct includes, but is not limited to:

- Plagiarism which is the claiming of words, ideas, artistry, drawings or data of another person. This also includes submitting your own work in whole or in part for credit in two or more courses.
- Cheating
- Misrepresentation of personal identity or performance
- Submission of false information
- Contributing to academic misconduct
- Damaging, tampering, or interfering with the scholarly environment
- Unauthorized copying or use of copyrighted materials
- Violations of departmental policies or professional behavior
- Violations of specific departmental or course requirements

Committing academic misconduct will trigger academic penalties, including:

- *course-grade reduction greater than a grade of “zero” (0) on course work*
- *failing grades, suspension and possibly expulsion from the University.*

As a Ryerson student, you are responsible for familiarizing yourself with Ryerson conduct policies.

Non-Academic Conduct

Ryerson's Student Code of Non-academic Conduct is described in Senate Policy 61:

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

Among many other infractions, the code specifically refers to the following as a violation: “Disruption of Learning and Teaching - Students shall not behave in disruptive ways that obstruct the learning and teaching environment.