

Welcome to the

**University of Saskatchewan - Department of Computer Science**

## **CMPT 479/817 Usability Engineering;**

**Web site for 2016**

**Class notes and readings can be accessed by registered students via: [moodle.cs.usask.ca](http://moodle.cs.usask.ca)**

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This course presents a requirements engineering (RE) approach to usability engineering(UE). UE is a structured approach to developing usable user interface designs.

UE integrates human-computer interaction (HCI) requirements and design approaches within development projects managed by software engineering (SE) methodologies.

Requirements Engineering (a sub discipline of SE) focuses on applying development processes and documenting information items that support these development processes in order to engineer large scale software projects and to provide information that readily supports further evolutionary development of these projects. While RE is most needed for large scale projects, its processes and information items can also be scaled down to smaller developments. This approach is being taken because it can be applied to all types and sizes of developments.

This class focuses on the needs of users and their tasks, which are at the heart of all systems development. It demonstrates how RE can be applied to engineering usable systems. While it does not deal with technical issues (such as program or database design and construction) it provides clear linkages to those SE activities, which also fit into the same overall life cycle.

In addition to providing students with an advanced understanding of UE and RE, this class introduces them to a variety of significant international standards in the fields of Software Engineering and of Ergonomics.

Please contact [Prof. Jim Carter <carter@cs.usask.ca>](mailto:carter@cs.usask.ca) if you are interested in further information about this class.

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**[Class News:](#)** July 14 [Welcome]

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## **Course Syllabus CMPT 479 / 817**

### **Catalog Description**

This course presents a requirements engineering (RE) approach to usability engineering (UE) by providing in depth coverage of the *Usability Centered Development* of information systems. UE is a structured approach to developing usable user interface designs. UE helps integrate human-computer interaction (HCI) requirements and design approaches within development projects managed by software engineering (SE) methodologies

## Prerequisites

- CMPT 479 prerequisite: CMPT 370 or permission of instructor.
- CMPT 817 prerequisite: graduate student standing

**Class Time & Location: Tues & Thurs 1:00 - 2:20 in Spinks 371.**

**Website: [http://userlab.usask.ca/CMPT 479/c479home.html](http://userlab.usask.ca/CMPT%20479/c479home.html)**

**Instructor: [Jim Carter <carter@cs.usask.ca>](mailto:carter@cs.usask.ca) 280.3 Thorvaldson Bldg, 966-4893.**

Office hours: Mon/Weds/Fri 12:30 - 1:20 or by appointment.

## Course Objectives

A student successfully completing this course shall be able:

1. To identify opportunities for improving the usability and accessibility of existing and proposed systems
2. To apply the components of the definitions of usability and accessibility to evaluating and developing interactive systems
3. To apply usability methods in evaluating and developing interactive systems
4. To apply principles and other forms of ergonomic and user interface guidance to evaluating and developing interactive systems
5. To identify and analyze the various components of the overall context of use of an interactive system
6. To develop usability and accessibility specifications that can be used in evaluating and developing interactive systems
7. To identify techniques and technologies that can satisfy usability and accessibility specifications

## Student Evaluation:

CMPT 479	CMPT 817
20% <a href="#">Assignment 1</a> Sept 26	20% <a href="#">Assignment 1</a>
20% <a href="#">Assignment 2</a> Oct 17	20% <a href="#">Assignment 2</a>
30% <a href="#">Term Project</a> Dec 8	50% <a href="#">Term Project</a>
30% Final Exam	10% <a href="#">Class Participation</a>

NOTE: It is important to complete assignments and the term project on time. Students having difficulties in meeting the due dates are encouraged to discuss these difficulties with Prof. Carter as soon as possible.

## Attendance Expectations

It is expected that students will attend and participate in all class sessions. Active participation in the discussion of class materials will help students to be able to apply the various concepts discussed. Students who are unable to attend a particular class are requested to advise the instructor by e-mail at least 30 minutes prior to the class.

## Final Exam Scheduling

The final exam (for students in CMPT 479 only) will be a take home exam that covers the complete course.

Students will be given at least 24 hours starting from the end of classes to complete the exam.

**Note: All students must be properly registered in order to attend lectures and receive credit for this course.**

## Text / Recommended Reading:

The main text is a manuscript of the book: *Usability Centered Development* by Dr. Jim Carter.

Class notes are also provided that summarize key points in most of the chapters. Students may wish to download the class notes prior to the class to use as a basis for their personal note taking, however minor changes to the notes may be made by the instructor right up to class time. Lecture material will go beyond these notes and students are warned that reading the notes is not a substitute for attending and participating in class.

Free access to all chapters of the text will be provided to students registered in the class via the [Moodle system](#).

The text and notes are copyright by Dr. Jim Carter and freely provided for the use of registered students in the class and shall not be shared or published outside the class.

## Lecture Schedule

[ALL DATES AND TOPICS SUBJECT TO CHANGE]

Dates	Topics
Sept 6	0. Course Introduction
Sept 8	1. Introduction to Human-Centered Design and Usability-Centered Development
Sept 13 Sept 15	2. Usability, Accessibility and related concepts (ch 2 continued)
Sept 20	3. Usability Methods
Sept 22	4. Principles and Other Sources of Guidance Discuss <a href="#">Assignment 1 - Applying Principles</a> which is <b>Due 12:00 noon, Thursday Oct 6</b>
Sept 27 Sept 29	5. Possibilities and Scenarios 6. Identifying Tasks
Oct 4 Oct 6	7. Identifying Users 8. Identifying Content * <a href="#">Assignment 1 - Applying Principles</a> Due 12:00 noon, Thursday Oct 6 * Discuss <a href="#">Assignment 2- User Testing</a> which is <b>Due 12:00 noon Thursday Oct 20</b>
Oct 11 Oct 13	9. Identifying Environments 10. Needs Assessment * Discuss <b>Term Project - Proposal Due noon Thursday Oct 27</b>
Oct 18 Oct 20	11. Basic Task Characteristics 12. Additional Task Characteristics * <a href="#">Assignment 2</a> Due 12:00 noon Tuesday Oct 20
Oct 25 Oct 27	13. User Interaction Capabilities 14. User Cognitive and Affective Capabilities * <a href="#">Project proposal</a> due 12:00 noon Thursday Oct 29
Nov 1	15. Group Characteristics

Nov 3	16. Content Issues
Nov 8	<i>University Break</i>
Nov 10	<i>No Classes This Week</i>
Nov 15	17. Specifying Needs, Requirements, and Recommendations <i>* Project context should be completed by Tuesday Nov 15</i>
Nov 17	18. Interaction Design
Nov 22	19. Principles for the Presentation of Information
Nov 24	20. Interface (& Navigation) Design <i>* Project analysis should be completed by Thursday Nov 24</i>
Nov 29	21. Implementation Issues
Dec 1	22. Usability Engineering
Dec 6	Student <a href="#">Project Presentations</a>
Dec 8	no class today <a href="#">Class project</a> is due 5:00 pm Dec 8

## Incomplete Course Work and Final Grades

"When a student has not completed the required course work, which includes any assignment or examination including the final examination, by the time of submission of the final grades, they may be granted an extension to permit completion of an assignment, or granted a deferred examination in the case of absence from a final examination. Extensions for the completion of assignments must be approved by the Department Head, or Dean in non-departmentalized Colleges, and may exceed thirty days only in unusual circumstances. The student must apply to the instructor for such an extension and furnish satisfactory reasons for the deficiency. Deferred final examinations are granted as per College policy.

**In the interim, the instructor will submit a computed percentile grade for the course which factors in the incomplete course work as a zero, along with a grade comment of INF (Incomplete Failure) if a failing grade.**

If an extension is granted and the required assignment is submitted within the allotted time, or if a deferred examination is granted and written in the case of absence from the final examination, the instructor will submit a revised computed final percentage grade. The grade change will replace the previous grade and any grade comment of INF (Incomplete Failure) will be removed.

For provisions governing examinations and grading, students are referred to the University Council Regulations on Examinations section of the Calendar.

(2011 University of Saskatchewan Calendar/Academic Courses Policy)

Further details of the Academic Course Policy can be found online at:  
<http://policies.usask.ca/policies/academic-affairs/academic-courses.php>

## Academic Honesty

The University of Saskatchewan is committed to the highest standards of academic integrity and honesty. Students are expected to be familiar with these standards regarding academic honesty and to uphold the policies of the University in this respect. Students are particularly urged to familiarize themselves with the provisions of the Student Conduct & Appeals section of the University Secretary Website and avoid any behavior that could

potentially result in suspicions of cheating, plagiarism, misrepresentation of facts and/or participation in an offence. Academic dishonesty is a serious offence and can result in suspension or expulsion from the University.

All students should read and be familiar with the Regulations on Academic Student Misconduct ([http://www.usask.ca/university\\_secretary/honesty/StudentAcademicMisconduct.pdf](http://www.usask.ca/university_secretary/honesty/StudentAcademicMisconduct.pdf)) as well as the Standard of Student Conduct in Non-Academic Matters and Procedures for Resolution of Complaints and Appeals ([http://www.usask.ca/university\\_secretary/honesty/StudentNon-AcademicMisconduct2012.pdf](http://www.usask.ca/university_secretary/honesty/StudentNon-AcademicMisconduct2012.pdf)) Academic honesty is also defined and described in the Department of Computer Science Statement on Academic Honesty (<http://www.cs.usask.ca/undergrad/honesty.php>).

For more information on what academic integrity means for students see the Student Conduct & Appeals section of the University Secretary Website at:

[http://www.usask.ca/university\\_secretary/pdf/dishonesty\\_info\\_sheet.pdf](http://www.usask.ca/university_secretary/pdf/dishonesty_info_sheet.pdf)

### **Examinations with Disability Services for Students (DSS)**

Students who have disabilities (learning, medical, physical, or mental health) are strongly encouraged to register with Disability Services for Students (DSS) if they have not already done so. Students who suspect they may have disabilities should contact DSS for advice and referrals. In order to access DSS programs and supports, students must follow DSS policy and procedures. For more information, check <http://www.students.usask.ca/disability/>, or contact DSS at 966-7273 or [dss@usask.ca](mailto:dss@usask.ca).

Students registered with DSS may request alternative arrangements for mid-term and final examinations. Students must arrange such accommodations through DSS by the stated deadlines. Instructors shall provide the examinations for students who are being accommodated by the deadlines established by DSS.

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Date of last revision: Aug 18, 2015