



DEPARTMENT OF SCIENCE

COURSE OUTLINE – WINTER 2020

CS 3010 (A3): User Interfaces 3 (3-0-2) 75 Hours for 15 Weeks

INSTRUCTOR: Ubaid Abbasi

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OFFICE: C-427

E-MAIL: UAbbasi@gprc.ab.ca

OFFICE HOURS: Tuesday 1:30-2:30PM

CALENDAR DESCRIPTION:

This course is an introduction to the theory, design and programming of modern user interfaces. Topics will include: human factors; interaction design; usability; software development with graphical user interfaces (GUI) for computers, game consoles and mobile devices; input and output devices (including game controllers).

PREREQUISITE(S)/COREQUISITE: CS2010

REQUIRED TEXT/RESOURCE MATERIALS:

- Designing the User Interface: Strategies for Effective Human-Computer Interaction (6th Edition) by B.Shneiderman et al. ISBN 9780134380384.
- Introduction to Java Programming by D. Liang. ISBN 10th Edition 0-13-376131-2.

DELIVERY MODE(S): In class and lab

COURSE OBJECTIVES:

This course introduces students to:

- The theory, design and programming of modern user interfaces.
- Human factors, interaction design, and usability.
- Software development with graphical user interfaces (GUI) for computers, game consoles and mobile devices.
- Input and output devices (including game controllers).

LEARNING OUTCOMES:

At the end of this course, students will gain the ability to:

- Discuss and explain how perception, memory and cognition pertain to designing human computer interfaces.
- Design and implement user interfaces using modern application programming interfaces (APIs) and toolkits.
- Design and implement graphical user interfaces for computers, game consoles and mobile devices.
- Design and implement software that interfaces with input and output devices, including game controllers.

TRANSFERABILITY:

University of Alberta *

University of Calgary

University of Lethbridge

Athabasca University

King's University College

Augustana Faculty, University of Alberta

* An asterisk (*) beside any transfer institution indicates important transfer information. Consult the Alberta Transfer Guide.

***Warning:** Although we strive to make the transferability information in this document up-to-date and accurate, **the student has the final responsibility for ensuring the transferability of this course to Alberta Colleges and Universities.** Please consult the Alberta Transfer Guide for more information. You may check to ensure the transferability of this course at Alberta Transfer Guide main page [http:// www.transferalberta.ca](http://www.transferalberta.ca) or, if you do not want to navigate through few links, at <http://alis.alberta.ca/ps/tsp/ta/tbi/onlineSearch.html?SearchMode=S&step=2>

** Grade of D or D+ may not be acceptable for transfer to other post-secondary institutions. **Students are cautioned that it is their responsibility to contact the receiving institutions to ensure transferability**

EVALUATIONS:

Assignments/Project	25%
Quizzes	10%
Midterm Exam	30%
Final Exam	35%

GRADING CRITERIA:

Please note that most universities will not accept your course for transfer credit **IF** your grade is **less than C-**.

Alpha Grade	4-point Equivalent	Percentage Guidelines	Alpha Grade	4-point Equivalent	Percentage Guidelines
A+	4.0	90-100	C+	2.3	67-69
A	4.0	85-89	C	2.0	63-66
A-	3.7	80-84	C-	1.7	60-62
B+	3.3	77-79	D+	1.3	55-59
B	3.0	73-76	D	1.0	50-54
B-	2.7	70-72	F	0.0	00-49

COURSE SCHEDULE/TENTATIVE TIMELINE:

	Topics
Week 1-4	<p>Usability, Guidelines and Theories</p> <ul style="list-style-type: none"> • Usability of Interactive Systems • Universal Usability • Guidelines, Principles and Theories <p>Reading : Chp1, 2 ,3</p> <p style="text-align: center;">Quiz 1</p>
Week 5-9	<p>Design Processes</p> <ul style="list-style-type: none"> • Introduction to Design Process and Framework • Evaluation and the User Experience • Design Case Studies <p>Reading : Chp 4, 5 ,6</p> <p style="text-align: center;">Midterm</p>
Week 10-13	<p>Interaction Styles</p> <ul style="list-style-type: none"> • Direct Manipulation and Immersive Environment • Fluid Navigation • Expressive Human and Command Language

	<ul style="list-style-type: none"> • Devices, Communication and Collaboration <p>Reading: Chp 7, 8,9,10,11</p> <p style="text-align: center;">Quiz 2</p>
Week 14	<p>Design Issues and Windowing Systems</p> <ul style="list-style-type: none"> • Advancing the User Experience • The Timely User Experience • Documentation and User Support • Data Visualization

STUDENT RESPONSIBILITIES:

Assignments are to be handed in and/or demonstrated in the scheduled lab on the due-date. Late assignments will not be accepted. Students will be eligible for a passing grade, only if they obtain 30 out of a possible 60 marks (on exams).

STATEMENT ON PLAGIARISM AND CHEATING:

Cheating and plagiarism will not be tolerated and there will be penalties. For a more precise definition of plagiarism and its consequences, refer to the Student Conduct section of the College Admission Guide at <http://www.gprc.ab.ca/programs/calendar/> or the College Policy on Student Misconduct: Plagiarism and Cheating at <http://www.gprc.ab.ca/about/administration/policies/> ****Note:** all Academic and Administrative policies are available on the same page.

Additional Information:

CS 3010 A3	Instructor	Room	Day	Time
Lecture	Ubaid Abbasi	G111	Wednesday, Thursday	13:00 to 14:20
Lab	Ubaid Abbasi	G112	Thursday	14:30 to 16:20