

DEPARTMENT OF SCIENCE

COURSE OUTLINE – WINTER 2016

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

| INSTRUCTOR: | David Gregg | PHONE: | 780-539-2976 |
|----------------------|-------------|---------------|-------------------|
| OFFICE: | C-427 | E-MAIL: | dgregg@gprc.ab.ca |
| OFFICE HOURS: | TBA | | |

CALENDAR DESCRIPTION:

(Formerly CT2020) 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:

Introduction to Java Programming by D. Liang. ISBN 10th Edition 0-13-376131-2. The Design of Everyday Things by D. Norman Revised and expanded edition. ISBN 978-0-465-05065-9.

Class notes.

Please make good use of the on-line resources related to Human Computer Interfaces. See the CS3010 MOODLE page for additional materials.

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:

As a result of taking 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 or, if you do not want to navigate through few links, at http://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 | 40% |
|--------------|-----|
| Midterm Exam | 25% |
| Final Exam | 35% |

GRADING CRITERIA: (The following criteria may be changed to suite the particular course/

instructor)

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 |
| А | 4.0 | 85-89 | С | 2.0 | 63-66 |
| A- | 3.7 | 80-84 | C- | 1.7 | 60-62 |
| B+ | 3.3 | 77-79 | D+ | 1.3 | 55-59 |
| В | 3.0 | 73-76 | D | 1.0 | 50-54 |
| B- | 2.7 | 70-72 | F | 0.0 | 00-49 |

COURSE SCHEDULE/TENTATIVE TIMELINE:

| | Topics |
|---|---|
| 1 | Introduction |
| 2 | Human Computer Interaction (HCI), User Experience (UX), and Interaction Design (IxD) concepts |
| 3 | User Interface Devices |
| 4 | Windowing Systems |
| 5 | Midterm |
| 6 | User Interface Design Toolkits |
| 7 | Final Exam |

Many of the topics above are introduced in parallel rather than sequentially

STUDENT RESPONSIBILITIES:

Assignments are to be handed in and/or demonstrated in the scheduled lab on the due-date. Late assignments will be penalized by 50%. Late assignments may not be accepted after the end of classes. Some assignments may be weighted differently than others. 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 <u>http://www.gprc.ab.ca/programs/calendar/</u> or the College Policy on Student Misconduct: Plagiarism and Cheating at <u>http://www.gprc.ab.ca/about/administration/policies/</u>

**Note: all Academic and Administrative policies are available on the same page.

Additional Information :

| CS 3010 A3 | Instructor | Room | Day | Time |
|------------|-------------|------|----------------------|----------------|
| Lecture | David Gregg | G111 | Wednesday, Friday | 13:00 to 14:20 |
| Lab | David Gregg | G112 | Thursday | 14:30 to 16:20 |