

**DEPARTMENT OF SCIENCE
COURSE OUTLINE – WINTER 2023**

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

Northwestern Polytechnic acknowledges that our campuses are located on Treaty 8 territory, the ancestral and present-day home to many diverse First Nations, Metis, and Inuit people. We are grateful to work, live and learn on the traditional territory of Duncan's First Nation, Horse Lake First Nation and Sturgeon Lake Cree Nation, who are the original caretakers of this land.

We acknowledge the history of this land and we are thankful for the opportunity to walk together in friendship, where we will encourage and promote positive change for present and future generations.

INSTRUCTOR:	David Gregg	PHONE:	TBA
OFFICE:	TBA	E-MAIL:	dgregg@nwpolytech.ca
OFFICE HOURS:	TBA		

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.
- 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 course page for additional materials.

DELIVERY MODE(S): In class and lab**Lectures:**

E305 Monday	08:30 - 09:50
E305 Wednesday	08:30 - 09:50

Labs:

G112 Monday	14:30 – 16:20
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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:

Please consult the Alberta Transfer Guide for more information. You may check to ensure the transferability of this course at the Alberta Transfer Guide main page <http://www.transferalberta.ca>.

**** 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/Lab exams	40%
Midterm Exam	25%
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
1	Introduction
2	Human Computer Interaction (HCI), User Experience (UX), and Interaction Design (IxD) concepts
3	User Interface Devices
4	Windowing Systems
5	User Interface Design Toolkits

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 not be accepted. Students will be eligible for a passing grade, only if they obtain 30 out of a possible 60 marks (on midterm and final 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 Northwestern Polytechnic Calendar at <https://www.nwpolytech.ca/programs/calendar/> or the Student Rights and Responsibilities policy which can be found at <https://www.nwpolytech.ca/about/administration/policies/index.html>.

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