

SCIENCE DEPARTMENT

COURSE OUTLINE – WINTER 2024

CS 3010: User Interfaces – 3 (3-0-2) 5 Hours for 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: Ubaid Abbasi **PHONE:** 780-539-2016
OFFICE: C-427 **E-MAIL:** UAbbasi@nwpolytech.ca
OFFICE HOURS: 11:30-12:30 Monday or appointment by email

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.

Note: Additional handouts will be provided in class.

DELIVERY MODE(S):

This course includes 3-hours of lecture per week and a 2-hour lab per week

Lectures:	G112	Monday	08:30 – 09:50AM
	G111	Wednesday	08:30 - 09:50AM
Labs:	G111	Friday	11:30 – 01:20PM

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:

UA, UC, UL, AU, KUC, GMU.

***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://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:

Your final grade will be determined in the following manner:

Assignments/Project	30%
Quizzes	15%
Midterm Exam	25%
Final Exam	30%

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	95-100	C+	2.3	67-69
A	4.0	85-94	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 and User Experience Goals • User Centred Design and Requirements <p>Quiz 1</p>
Week 5-9	<p>Scenarios and Task Description</p> <ul style="list-style-type: none"> • Ideation • Prototyping • Vision <p>Midterm</p>
Week 10-13	<p>Design</p> <ul style="list-style-type: none"> • Design Principles • Layout and Navigation • Evaluation <p>Quiz 2</p>
Week 14	<p>Usability Testing</p> <ul style="list-style-type: none"> • Usability

	<ul style="list-style-type: none">• Experiments• Universal Design• Information Visualization
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STATEMENT ON PLAGIARISM AND CHEATING:

Academic Misconduct will not be tolerated. For a more precise definition of academic misconduct and its consequences, refer to the Student Rights and Responsibilities policy available at <https://www.nwpolytech.ca/about/administration/policies/index.html>.

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