

SCIENCE DEPARTMENT

COURSE OUTLINE – Winter 2026

CS3990: Web Based Internet Technology 3 (3-0-3) UT - 90 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:	Dr. Hanna Yehoshyna	PHONE:	780-539-2074
OFFICE:	C-302	E-MAIL:	hyehoshyna@nwpolytech.ca
OFFICE HOURS:	appointment by email		

CALENDAR DESCRIPTION:

This course introduces students to various aspects of Internet and web technologies such as HTML/XHTML, CSS, XML, and JavaScript/Java through research and project related assignments. The exact topics covered in this course will be at the discretion of the instructor.

PREREQUISITE(S)/COREQUISITE:

- CS2010 - Practical Programming Methodology (3)

REQUIRED TEXT/RESOURCE MATERIALS:

The textbook for this course is:

- *Front-end Back-end Development With Html, Css, Javascript, JQuery, Php, And Mysql*, Jon Duckett, John Wiley & Sons Inc, 2022, ISBN 9781119813095

DELIVERY MODE(S):

In Person. This course is delivered in person at the Grande Prairie campus.

LEARNING OUTCOMES:

On the successful completion of this course, students will be able to:



- understand the fundamentals of web design and web programming, web sites architecture and their components;
- write well-structured, easily maintained, standards-compliant, web pages using HTML and CSS code;
- understand the fundamentals of the JavaScript programming language;
- understand and use Document Object Model (DOM);
- use JavaScript and jQuery to create dynamic web pages;
- understand and apply fundamental React concepts;
- handle user input with forms and events;
- design and develop web applications using HTML, CSS, JavaScript, and React;
- create client-server web apps that make use of PHP and MySQL for the generation of custom content;
- utilize modern software tools for developing web applications;
- work effectively in teams on web-projects.

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.transferralberta.alberta.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:

Your final grade will be determined in the following manner:

<i>Assignments</i>	<i>30%</i>
<i>Quizzes</i>	<i>10%</i>
<i>Midterm Exam</i>	<i>25%</i>
<i>Final Exam</i>	<i>35%</i>

Course Evaluation Practices:

- all assignments must be completed as individual efforts unless the Instructor states otherwise;
- quizzes and tests must be written as scheduled by the Instructor;
- a student must average at least 50% on the tests combined in order to receive credit for this course;

- a student must average at least 50% on the assignments in order to receive credit for this course.

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	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:

Weeks	Topics
1	Web Applications development intro. HTML fundamentals: Tags, Formatting Text, Creating Links, Adding Images, Lists, Tables
2	Cascading Style Sheets (CSS) fundamentals: introduction, syntax, selectors, properties, box model, CSS position property, CSS float, pseudo classes and pseudo elements in CSS, CSS combinators
3	Advanced CSS: CSS gradients, CSS transitions, flexbox, grid, Media Query CSS, Transitions and Animations in CSS
4	JavaScript Fundamentals and JavaScript Objects basics. Introduction to event handling in JavaScript
5	JavaScript Objects and DOM. Manipulating DOM elements. Composite data types. Advanced working with functions. Classes. Modules
6	jQuery basics. jQuery selectors and DOM attributes. jQuery CSS methods. jQuery DOM manipulation methods. jQuery effects
7	Node JS fundamentals. Introduction to JSX. Virtual DOM and rendering elements. React Components and Props.
8	React state and lifecycle. Event handling in React. Conditional Rendering
9	Routing with React Router. Redux introduction

Weeks	Topics
10	Midterm
11	PHP basics
12	Functions and arrays in PHP
13	Working with forms in PHP
14	PHP and MySQL.
15	Introduction to PHP Frameworks
16	Final Exam

COURSE SCHEDULE/TENTATIVE TIMELINE:

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

Lecture:	A3	G112	Tue. 13:00-14:20
			Thur. 13:00-14:20

Labs: L1 G112 Wed. 14:30-17:20

STUDENT RESPONSIBILITIES:

- Students are responsible for all material taught, discussed, assigned or presented by the Instructor. It is the student's responsibility to obtain any missed material covered during classes.
- Students take the two examinations at the date and time announced by the Instructor and/or Student Services. If the midterm is missed due to illness the weight will be put on the final. If the final is missed due to illness it will be deferred.
- Documented illness is the only valid excuse for missing an exam. An original medical note will be required in both cases. A grade of 0 may be assigned for any missed exam.
- Students must be prepared for class with the proper books and assignments, and having read and/or completed all assigned material.
- Students are supposed to complete assignments on or before the due the time and date announced by the Instructor.
- Students are not permitted to work together on assignments or exams (unless otherwise instructed by the Instructor).

STATEMENT ON ACADEMIC MISCONDUCT:

Cheating and plagiarism will not be tolerated and there will be penalties.

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.

ADDITIONAL INFORMATION:

Attendance

Students are expected to attend at least 75% of all scheduled classes, arrive on time, and remain for the duration of the scheduled class (unless advance permission is obtained from the instructor). Students may be refused permission to write the final examination on the advice of the instructor. This usually happens when absences are more than 30% of all scheduled classes, or if significant assessments like assignments, quizzes, tests, and/or exam(s) are not completed; see [Examination Policy](#) and Debarred from Examinations.

Time Management

Adopting and adhering to effective learning habits in this course will likely take up a great deal of time so plan your schedule accordingly. See ***Course Schedule/Tentative Timeline*** section above. Course materials and announcements will be available on myClass, Connect, and NWP Webmail. Students are responsible for checking all three websites regularly: 2-3 times per week.

Cell Phones, Recording and Photos

The use of cell phones during class time is unprofessional and distracting to the instructor as well as fellow students. Cell phones must be turned off or set to silent and placed out of sight during class time. Recording lectures or taking photos in class is prohibited unless advance permission is obtained from the instructor and any guest presenter(s). In the event permission is granted, such recordings may only be used for individual study, and may not be reproduced, transferred, distributed, or displayed in any public manner. Any images taken without instructor consent will need to be deleted immediately.

Email

Students may contact the instructor by NWP Webmail. Webmail will be answered within 3 business days (excluding weekends and holidays). Webmail correspondence must be sent to your instructor from your NWP Webmail account. Webmail should be professionally formatted with correct spelling and grammar. Webmail must include a subject line and reference to the course code and material(s) and/or textbook pages, etc.

Copyright

NWP respects Canadian and International laws and agreements with respect to the use of copyright materials. It is the responsibility of the individual using copyrighted materials to ensure said use is compliant with Canadian law, the Use of Copyright Materials Policy, and the Copyright Practices Guide for NWP instructors and Staff. See <https://www.nwpolytech.ca/about/administration/policies/index.html> and <https://www.nwpolytech.ca/about/administration/policies/fetch.php?ID=71>.

Study Skills Hub

Adopting and adhering to effective learning habits in this course will likely take up a great deal of time so plan your schedule accordingly. [The NWP Study Skills Hub](#) will help you develop the skills you need to succeed in your program and cope with the demands of higher education.