

SAULT COLLEGE OF APPLIED ARTS AND TECHNOLOGY

SAULT STE. MARIE, ONTARIO



COURSE OUTLINE

COURSE TITLE: Web Scripting Languages

CODE NO. : CSD212 SEMESTER: 3

PROGRAM: All I. T. Studies Students

AUTHOR: Willem de Bruyne

DATE: June 2011 PREVIOUS OUTLINE DATED: June 2010

APPROVED:

	“Penny Perrier”	June/11
	_____	_____
	Chair	DATE

TOTAL CREDITS: Six

PREREQUISITE(S): CSD120

HOURS/WEEK: Four

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I. COURSE DESCRIPTION:

Students will be writing comprehensive Client-Side web based applications using JavaScript technology. Students will learn JavaScript code that will be cross-browser compatible. The course content will focus on; using JavaScript with well-formed Web pages; work with JavaScript variables and data types and learn how to use the operations that can perform them; add functions, events, and control structures; use the browser object model; ensuring data that is entered into Web forms is correct before sending to the server; use object oriented programming techniques; manipulate data in strings and arrays; saving state information. It is assumed that student has a good knowledge of XHTML.

II. LEARNING OUTCOMES AND ELEMENTS OF THE PERFORMANCE:

Upon successful completion of this course, the student will demonstrate the ability to:

1. Introduction to JavaScriptPotential Elements of the Performance:

- Study the history of the WWW
- Work with structured Web Pages
- Learn about the JavaScript programming language
- Add structure to your JavaScript programs
- Learn about logic and debugging

2. Functions, Data Types and OperatorsPotential Elements of the Performance:

- Work with variables
- Learn how to use functions to organize your JavaScript code
- Study data types
- Use expressions and operators
- Work with strings
- Study operator precedence

3. Building Arrays and Control structures

Potential Elements of the Performance:

- Store data in arrays
- Use if statements, if . . . else statements, and switch statements to make decisions
- Nest one if statement in another
- Use while statements, do . . . while statements, and for statements to repeatedly execute code
- Use continue statements to restart a looping statement

4. The Browser Object Model

Potential Elements of the Performance:

- Study the browser object model
- Work with the Window object
- Study the History, Location, and Navigator objects
- Use JavaScript to refer to windows and frames

5. Validating Form Data with JavaScript

Potential Elements of the Performance:

- Study form elements and objects
- Use JavaScript to manipulate and validate form elements
- Learn how to submit and reset forms
- Learn how to validate submitted form data

6. Object Oriented JavaScript

Potential Elements of the Performance:

- Study object-oriented programming
- Learn about the built-in JavaScript objects
- Work with the Date, Number, and Math objects
- Define custom JavaScript objects

7. Debugging JavaScript

Potential Elements of the Performance:

- Study debugging concepts
- Learn how to trace error messages
- Learn how to use comments to locate bugs
- Use the Microsoft Script Debugger
- Study additional debugging techniques

8. Managing State and Information Security

Potential Elements of the Performance:

- Learn about state information
- Save state information with hidden form fields, query strings, and cookies
- Learn about security issues

9. Introduction to the Document Object Model (DOM)

Potential Elements of the Performance:

- Learn about dynamic Web pages
- Study the Document Object Model (DOM)
- Work with the Image object
- Create animation with the Image object
- Learn how to cache images

10. Dynamic HTML (DHTML)

Potential Elements of the Performance:

- Use JavaScript to modify CSS styles
- Work with CSS positioning
- Create DHTML menus
- Learn how to check for browser compatibility

III. TOPICS:

1. Introduction to Java Script
2. Functions, Data types and operators
3. Building Arrays and Control Structures
4. The Browser Object Model
5. Validating Form Data with JavaScript
6. Object Oriented JavaScript
7. Debugging JavaScript
8. Cookies and Security
9. Introduction to the Document Object Model (DOM)
10. Dynamic HTML (DHTML)

IV. REQUIRED RESOURCES/TEXTS/MATERIALS:

JavaScript: The Web Technologies Series 5th Edition
Don Gosselin
ISBN10: 0-538-74887-7, ISBN13: 978-0-538-74887-2

Students interested in the eBook, please go to:

<http://www.nelsonbrain.com/shop/isbn/9780538748872>

See student portal for availability of e-book version from bookstore (bookstore offers an “unlimited” timeframe on subscriptions)

The student can purchase a web version or a downloadable version. The most common subscription timeframe is 180 days but this varies depending on the text, publisher and/or web site. After the subscription timeframe has expired, the student no longer can access the text unless they extend/renew the subscription. If the bookstore offers an e-version of the text, the subscription timeframe is unlimited, but the subscription cost may be greater.

The advantages of the eBook version over the hardcopy version are twofold: savings of approximately 40% – 60%, and, no physical text to carry.

V. EVALUATION PROCESS/GRADING SYSTEM:

Quizzes & Tests	60%
Assignments	32%
<u>Part./Present.</u>	<u>8%</u>
	100%

The following semester grades will be assigned to students:

Grade	Definition	<i>Grade Point Equivalent</i>
A+	90 – 100%	4.00
A	80 – 89%	3.00
B	70 - 79%	2.00
C	60 - 69%	1.00
D	50 – 59%	0.00
F (Fail)	49% and below	
CR (Credit)	Credit for diploma requirements has been awarded.	
S	Satisfactory achievement in field /clinical placement or non-graded subject area.	
U	Unsatisfactory achievement in field/clinical placement or non-graded subject area.	
X	A temporary grade limited to situations with extenuating circumstances giving a student additional time to complete the requirements for a course.	
NR	Grade not reported to Registrar's office.	
W	Student has withdrawn from the course without academic penalty.	

The professor reserves the right to adjust the mark up or down 5% based on attendance, participation, leadership, creativity and whether there is an improving trend.

A minimum of **80% attendance** required in the labs and lectures.

- Students must complete and pass both the test and assignment portion of the course in order to pass the entire course.
- All Assignments must be completed satisfactorily to complete the course.
- Late hand in penalties will be a zero grade unless you have prior permission from the instructor
- Makeup Tests are at the discretion of the instructor and will be assigned a maximum grade of 50%.

- The professor reserves the right to adjust the number of tests, practical tests and quizzes based on unforeseen circumstances. The students will be given sufficient notice to any changes and the reasons thereof.
- A student who is absent for 3 or more times without any valid reason or effort to resolve the problem will result in action taken.

NOTE: If action is to be taken, it will range from marks being deducted to a maximum of removal from the course.

Eligibility for X Grades/Upgrading of Incompletes When a student's course work is incomplete or final grade is below 50%, there is the possibility of upgrading to a pass when a student meets all of the following criteria: The student's attendance has been satisfactory. An overall average of at least 50% has been achieved. The student has not had a failing grade in all of the theory tests taken. The student has made reasonable efforts to participate in class and complete assignments.

Note: **The opportunity for an X grade is usually reserved for those with extenuating circumstances.** The nature of the upgrading requirements will be determined by the instructor and may involve one or more of the following: completion of existing labs and assignments, completion of additional assignments, re-testing on individual parts of the course or a comprehensive test on the entire course.

Labs:

Lab activities represent a very important component of this course in which practical 'hands-on' skills will be developed. Because of this, attendance is mandatory and the satisfactory completion of all lab activities is required. Evaluation of lab work in-class will be done. It is the student's responsibility to discuss absences from regularly scheduled labs with the instructor so that alternate arrangements (where possible) can be made to complete the lab requirements.

VI. SPECIAL NOTES:**Attendance:**

Absenteeism will affect a student's ability to succeed in this course. Absences due to medical or other unavoidable circumstances should be discussed with the professor. Students are required to be in class on time and attendance will be taken within the first five minutes of class. A missed class will result in a penalty in your marks unless you have discussed your absence with the professor as described above. Unauthorized absences could result in a zero grade being assigned. The penalty depends on course hours and will be applied as follows:

Course Hours	Deduction
5 hrs/week (75 hrs)	1% / hr
4 hrs/week (60 hrs)	1.5% /hr
3 hrs/week (45 hrs)	2% /hr
2 hrs/week (30 hrs)	3%/hr

Absentee reports will be discussed with each student during regular meetings with Faculty Mentors. Final penalties will be reviewed by the professor and will be at the discretion of the professor.

Electronic Devices in the Classroom:

Students who wish to use electronic devices in the classroom will seek permission of the faculty member before proceeding to record instruction. With the exception of issues related to accommodations of disability, the decision to approve or refuse the request is the responsibility of the faculty member. Recorded classroom instruction will be used only for personal use and will not be used for any other purpose. Recorded classroom instruction will be destroyed at the end of the course. To ensure this, the student is required to return all copies of recorded material to the faculty member by the last day of class in the semester. Where the use of an electronic device has been approved, the student agrees that materials recorded are for his/her use only, are not for distribution, and are the sole property of the College.

VII. COURSE OUTLINE ADDENDUM:

The provisions contained in the addendum located on the portal form part of this course outline.