

**SAULT COLLEGE OF APPLIED ARTS AND TECHNOLOGY**

**SAULT STE. MARIE, ONTARIO**



Sault College

**COURSE OUTLINE**

**COURSE TITLE:** Web Programming

**CODE NO. :** CSD315

**SEMESTER:** 3 & 5

**PROGRAM:** Computer Programmer/Analyst

**AUTHOR:** Willem de Bruyne

**DATE:** June 2005

**PREVIOUS OUTLINE  
DATED:**

June 2004

**APPROVED:**

	_____ <b>DEAN</b>	_____ <b>DATE</b>
<b>TOTAL CREDITS:</b>	Six	
<b>PREREQUISITE(S):</b>	CSD120	
<b>HOURS/WEEK:</b>	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 ECMAScript Edition 3, which is compatible with recent Web browsers, including Microsoft Internet Explorer 4.0 and later and Netscape 6.0 and later. The course will also focus on the DOM (Document Object Model) specification published by the W3C and presents JavaScript techniques using XHTML-compatible Web pages.

**II. LEARNING OUTCOMES AND ELEMENTS OF THE PERFORMANCE:**

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

**1. Introduction to JavaScript**Potential 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. Data Types and Operators**Potential Elements of the Performance:

- Work with variables
- Study data types
- Use expressions and operators
- Work with strings
- Study operator precedence

**3. Functions, Events, and Control structures**Potential Elements of the Performance:

- Study how to use functions to organize your JavaScript code
- Learn how to work with events
- 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
- Learn how to 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. JavaScript and Forms

##### 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 Array, Date, Math, and Number 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. Cookies and Security

### Potential Elements of the Performance:

- Learn about state information
- Save state information with hidden form fields, query strings, and cookies
- Manipulate strings
- 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. **Data types and operators**
3. Functions, Events, and Control structures
4. The Browser Object Model
5. JavaScript and Forms
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 3<sup>rd</sup> Edition., Thompson Learning, by Don Gosselin

**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:

<b>Grade</b>	<b><u>Definition</u></b>	<i>Grade Point Equivalent</i>
A+	90 – 100%	4.00
A	80 – 89%	
B	70 - 79%	3.00
C	60 - 69%	2.00
D	50 – 59%	1.00
F (Fail)	49% and below	0.00
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 5% per day. Assignments will not be accepted past one week late unless there are extenuating and legitimate circumstances.
- 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.

### **Attendance:**

Attendance is mandatory. 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 instructor, so that remedial activities can be scheduled. Absenteeism for tests can only be allowed for medical reasons and should be authorized ahead of time. Unauthorized absences could result in a zero grade being assigned.

**VI. SPECIAL NOTES:****Special Needs:**

If you are a student with special needs (e.g. physical limitations, visual impairments, hearing impairments, or learning disabilities), you are encouraged to discuss required accommodations with your professor and/or the Special Needs office. Visit Room E1101 or call Extension 2493 so that support services can be arranged for you.

**Retention of Course Outlines:**

It is the responsibility of the student to retain all course outlines for possible future use in acquiring advanced standing at other postsecondary institutions.

**Plagiarism:**

Students should refer to the definition of “academic dishonesty” in *Student Rights and Responsibilities*. Students who engage in “academic dishonesty” will receive an automatic failure for that submission and/or such other penalty, up to and including expulsion from the course/program, as may be decided by the professor/dean. In order to protect students from inadvertent plagiarism, to protect the copyright of the material referenced, and to credit the author of the material, it is the policy of the department to employ a documentation format for referencing source material.

**Course Outline Amendments:**

The professor reserves the right to change the information contained in this course outline depending on the needs of the learner and the availability of resources.

Substitute course information is available in the Registrar's office.

**VII. PRIOR LEARNING ASSESSMENT:**

Students who wish to apply for advanced credit in the course should consult the professor. Credit for prior learning will be given upon successful completion of a challenge exam or portfolio.

**VIII. DIRECT CREDIT TRANSFERS:**

Students who wish to apply for direct credit transfer (advanced standing) should obtain a direct credit transfer form from the Dean's secretary. Students will be required to provide a transcript and course outline related to the course in question.

