

**SAULT COLLEGE OF APPLIED ARTS AND TECHNOLOGY**

**SAULT STE. MARIE, ONTARIO**



**COURSE OUTLINE**

**COURSE TITLE:** XML and New Technologies

**CODE NO. :** CSD316 **SEMESTER:** 4

**PROGRAM:** Computer Programmer/Computer Programmer Analyst

**AUTHOR:** M. VanLandeghem

**DATE:** Jan 2012 **PREVIOUS OUTLINE DATED:** Jan 2011

**APPROVED:** "Brian Punch" Dec/11

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	<b>CHAIR</b>	<b>DATE</b>
<b>TOTAL CREDITS:</b>	5	
<b>PREREQUISITE(S):</b>		
<b>HOURS/WEEK:</b>	4	

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*For additional information, please contact Brian Punch, Chair*

*School of Environment, Design and Business*

*(705) 759-2554, Ext. 2681*

**I. COURSE DESCRIPTION:**

Students will be introduced to the many standards and governing bodies affecting historical and current markup languages.

Ultimately students will be introduced to the revolutionary, evolutionary XML and XML-related web-enabling application standards. Students will understand the XML language's intended usage, syntax, and functionality. Students will progress from creating simple XML documents, to creating components of, or complete commercial applications rendering web pages with dynamic data content and style.

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

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

**1. Describe the characteristics of a generalized markup language.**Potential Elements of the Performance:

- Describe the purpose and evolution of markup languages..
- Identify and explain the historical perspective of GML.
- Identify and explain the historical perspective of SGML.
- Differentiate between GML and SGML objectives.
- Understand the relationship between GML, SGML and XML

**2. Evaluate the historical perspective of markup languages used on the World Wide Web**Potential Elements of the Performance:

- Understand the role of the World Wide Web Consortium (W3C)
- Describe the evolution of markup languages used on the WWW.
- Describe the role of the Web Browser in relation to markup languages used on the WWW.
- Identify and explain the historic perspective of HTML.
- Identify and explain the historic perspective of XHTML.
- Describe the similarities between HTML and XHTML.
- Describe the major differences between HTML and XHTML
- Evaluate the W3C recommendations governing XHTML
- Understand why the W3C created XML an markup language
- Understand the relationship between XHTML and XML

### 3. Create and modify simple XHTML documents.

#### Potential Elements of the Performance

- Create simple XHTML documents and open them in a browser.
- Read and write document type and namespace declarations.
- Add id and class attributes to an XHTML document.
- Identify the root element in an XHTML document.
- Create lists, add anchors & images to a simple XHTML document.
- Plan and create XHTML documents using div and span attributes.
- Plan and create XHTML documents using table elements.
- Plan and create XHTML forms using the XHTML Strict DTD

### 4. Create and use Cascading Style Sheets with XML documents.

#### Potential Elements of the Performance:

- Separate and apply style using Cascading Style Sheet (CSS) rules.
- Develop CSS declaration blocks, properties, values, and determine cascading order.
- Apply CSS attributes, pseudo-elements, and pseudo-classes.
- Utilize inheritance, attribute selectors, descendant selectors, and substring matching selectors to create efficient CSS.
- Incorporate CSS into web applications, including tables.
- Design and develop with CSS using absolute, relative, and fixed positioning.
- Incorporate space properties for multiple output devices.

### 5. Introduction to the Extensible Markup Language

#### Potential Elements of the Performance:

- Understand when to apply XML to web based applications.
- Develop "well-formed" XML documents as recommended by the W3C.
- Create and validate well-formed XML applications utilizing correct syntax for attributes, sub-elements, PCDATA, CDATA, processing instructions, and entities.
- Determine and incorporate namespace into XML documents.
- Read, key and edit an XML hierarchical structure and document tree.
- Model XML applications and work with an XML parser toward user-centered design and efficient application development.

## 6. Introduction to the Document Object Model (DOM)

### Potential Elements of Performance:

- Create XML documents based on the DOM hierarchical tree structure.
- Navigate and modify XML documents using DOM.
- Prepare XML documents using DOM nodes root, children and siblings.
- Develop DOM objects to be accessed for data manipulation.
- Work with node properties and methods in simple applications.

## 7 Introduction to the Wireless Markup Language (WML)

### Potential Elements of Performance

- Differentiate between web and wireless development.
- Work with WML structure and syntax to create WML applications.
- Determine appropriate tools for development and testing with WML.
- Select and develop with WAP tools from the textbook's companion website.

## III. TOPICS:

1. Describe characteristics of a generalized markup language
2. Evaluate the historical perspective of markup languages used on the WWW.
3. Create and modify simple XML documents.
4. Create cascading style sheets for XML documents
5. Introduction to the Extensible Markup Language (XML)
6. Introduction to the Document Object Model (DOM)
7. Introduction to the Wireless Markup Language (WML)

**IV. REQUIRED RESOURCES/TEXTS/MATERIALS:**

**Textbook: Students should consult with professor prior to purchasing new books. Used books may be available from prior students.**

**Title: New Perspectives - XML (Comprehensive)**

**Authors: Patrick Carey**

**Publisher: Thomson Education**

**ISBN: 1-4188-6064-6**

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

**V. EVALUATION PROCESS/GRADING SYSTEM:**

The mark for this course will be arrived at as follows:

Tests	40%
Practical Assignments	60%
Total	100%

Some minor modifications to the above percentages may be necessary. 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.

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.

- Successful completion of this course is greatly improved with a disciplined approach and consistent attendance to both the lab and lecture / theory classes.
- Students must complete and pass both the test and assignment portion of the course in order to pass the entire courses.
- 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. It is not acceptable to miss classes and / or labs without a reasonable explanation.
- There will also be a lab exercise each and every week that will be due during that lab period. In the event that it cannot be completed during lab time, you will be allowed to complete it as a homework exercise and demonstrate it the following lab with no penalty.

**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. The penalty depends on course hours and will be applied as follows:

<b>Course Hours</b>	<b>Deduction</b>
5 hrs/week (75 hrs)	1% per hour
4 hrs/week (60 hrs)	1.5% per hour
3 hrs/week (45 hrs)	2% per hour
2 hrs/week (30 hrs)	3% per hour

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.	

**VI. SPECIAL NOTES:**Attendance:

Sault College is committed to student success. There is a direct correlation between academic performance and class attendance; therefore, for the benefit of all its constituents, all students are encouraged to attend all of their scheduled learning and evaluation sessions. This implies arriving on time and remaining for the duration of the scheduled session.

**VII. COURSE OUTLINE ADDENDUM:**

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