

Saint Leo University
COM340
Introduction to Internet Applications

Course Description:

An introduction to Internet applications theory, the tools used to develop Internet applications, and the development of Web design, electronic commerce, and server administration.

Prerequisite:

COM 203 and a programming language course

Textbooks:

The textbook information which appears on our Saint Leo Bookstore ordering site is as follows:
Saint Leo University. Internet & World Wide Web How To etc (Subscription). ISBN: 9780134262024

Your custom textbook was created from the following National text(s):

Internet & WorldWide Web: Deitel, P. J., Deitel, H. M., & Deitel, A. (2012). Internet & World Wide Web: how to program (5th ed.). Boston: Pearson. ISBN: 9780132151009

Learning Outcomes:

Upon completion of this course, the student should be able to:

1. Use tools including but not limited to web development tools such as HTML, Java script, XML, and PHP to facilitate interactive website planning and design, including scripting, back-end application interfaces, and XML.
2. Demonstrate the fundamentals of website structure and design.
3. Demonstrate a basic understanding of web server administration theory.
4. Students will demonstrate an understanding of the Saint Leo University core value integrity.

Core Value:

Integrity: The commitment of Saint Leo University to excellence demands that its members live its mission and deliver on its promise. The faculty, staff, and students pledge to be honest, just, and consistent in word and deed.

Evaluation:

Assessment	Weight
Exams (3)	36%
Programming Exercises (8)	52%
Discussions	
Modules 1-7 (7)	7%
Module 8	5%
TOTAL	100%

Final letter grade will be based on the following scale:

Grade	Score (%)
A	94-100
A-	90-93
B+	87-89
B	84-86
B-	80-83
C+	77-79
C	74-76
C-	70-73
D+	67-69

D	60-66
F	0-59

Method of Assessment:

Unlike many college courses where you read the material and reiterate it to the professor on tests and in papers, this is a skill-based course. You have to demonstrate the knowledge you acquire by hands-on experience. The only way to learn the skills required to successfully complete the course is to perform these operations. The most important factor in acquiring the skills is to create web pages and write scripts to interact with them.

Exams:

There are three exams in this course. Exams are due in Modules 2, 5, and 8 and must be completed no later than Sunday 11:59 PM EST/EDT.

Programming Exercises:

The student will complete a total of eight exercises, one in each module. Each exercise is due no later than Sunday 11:59 PM EST/EDT.

Discussions:

There will be a total of eight discussion questions, one occurring in each module. Students must submit an initial post to the module discussion board no later than Thursday 11:59 PM EST/EDT. Additionally, students must post responses to at least two classmate's discussion postings no later than Sunday 11:59 PM EST/EDT.

Course Schedule:

Module 1 Introduction to the Internet and HTML5

Outcomes: At the conclusion of this module, students will be able to:

- Explain the evolution of the Internet and the World Wide Web.
- Explain different types of programming languages and object technology.
- Explain what Web 2.0 is and why it's having such an impact among Internet-based and traditional businesses.
- Explain important components of HTML5 documents.
- Use XHTML5 to create web pages containing images, hyperlinks, tables, and forms.

Assignments:

Items to be Completed:	Due No Later Than:
Post Introduction to the class	Thursday 11:59 PM EST/EDT
Read the assigned materials	
Review Sample Solution	
Post Initial response to the discussion question	Thursday 11:59 PM EST/EDT
Post Responses to at least two classmates	Sunday 11:59 PM EST/EDT
Submit Programming Exercise 1	Sunday 11:59 PM EST/EDT

Module 2 Cascading Style Sheets™ (CSS)

Outcomes: At the conclusion of this module, students will be able to:

- Use style sheets to separate presentation from content.
- Control the appearance of a website by creating style sheets.
- Use a style sheet to give all the pages of a website the same look and feel.
- Specify the precise font, size, color, and other properties of displayed text.
- Use the box model to control margins, borders, and padding.
- Create animations, transitions, and transformations.

Assignments:

Items to be Completed:	Due No Later Than:
Read the assigned materials	
Review Sample Solution	
Post Initial response to the discussion question	Thursday 11:59 PM EST/EDT
Post Responses to at least two classmates	Sunday 11:59 PM EST/EDT
Submit Programming Exercise 2	Sunday 11:59 PM EST/EDT
Complete Exam 1	Sunday 11:59 PM EST/EDT

Module 3 Introduction to Scripting and Control Statements (I)

Outcomes: At the conclusion of this module, students will be able to:

- Compile simple JavaScript programs.
- Develop programs using arithmetic operators, and input and output statements.
- Explain the precedence of arithmetic operators.
- Use decision-making statements.
- Develop algorithms through the process of top-down, stepwise refinement.
- Use the *if* and *if else* selection statements to choose among alternative actions.
- Use the while repetition statement to execute statements in a script repeatedly.
- Use the counter-controlled repetition and sentinel-controlled repetition.
- Use the increment, decrement, assignment, and logical operators.

Assignments:

Items to be Completed:	Due No Later Than:
Read the assigned materials	
Review Sample Solution	
Post Initial response to the discussion question	Thursday 11:59 PM EST/EDT
Post Responses to at least two classmates	Sunday 11:59 PM EST/EDT
Submit Programming Exercise 3	Sunday 11:59 PM EST/EDT

Module 4 JavaScript: Control Statements (II) and Functions

Outcomes: At the conclusion of this module, students will be able to:

- Explain essentials of counter-controlled repetition.
- Utilize the for and do while repetition statements to execute statements in a program repeatedly.
- Perform multiple selections using the switch selection statement.
- Utilize the break and continue program control statements.
- Utilize the logical operators.
- Develop programs to create new functions including passing information between them.
- Utilize techniques that use random number generation.
- Explain how the visibility of identifiers is limited to specific regions of programs.

Assignments:

Items to be Completed:	Due No Later Than:
Read the assigned materials	
Sample Solution	
Post Initial response to the discussion question	Thursday 11:59 PM EST/EDT
Post Responses to at least two classmates	Sunday 11:59 PM EST/EDT
Submit Programming Exercise 4	Sunday 11:59 PM EST/EDT

Module 5 JavaScript: Arrays and Objects

Outcomes: At the conclusion of this module, students will be able to:

- Utilize arrays to store lists and tables of values.
- Declare an array, initialize an array, and refer to individual elements of an array.
- Pass arrays to functions.
- Search and sort an array.
- Declare and manipulate multidimensional arrays.
- Explain Object-based programming terminology and concepts including encapsulation and data hiding.
- Write programs using the JavaScript Objects Math, String, Date, Boolean, Number, and JSON.

Assignments:

Items to be Completed:	Due No Later Than:
Read the assigned materials	
Review Sample Solution	
Post Initial response to the discussion question	Thursday 11:59 PM EST/EDT
Post Responses to at least two classmates	Sunday 11:59 PM EST/EDT
Submit Programming Exercise 5	Sunday 11:59 PM EST/EDT
Complete Exam 2	Sunday 11:59 PM EST/EDT

Module 6 Document Object Module (DOM) and Event Handling

Outcomes: At the conclusion of this module, students will be able to:

- Create dynamic web pages using JavaScript and the W3C Document Object Model.
- Explain the concept of DOM nodes and DOM trees.
- Describe how to traverse, edit, and modify elements in an XHTML5 document.
- Create JavaScript animations.
- Explain the concepts of events, event handlers, and event bubbling.
- Create and register event handlers that respond to mouse and keyboard events.
- Recognize and respond to common events.

Assignments:

Items to be Completed:	Due No Later Than:
Read the assigned materials	
Review Sample Solution	
Post Initial response to the discussion question	Thursday 11:59 PM EST/EDT
Post Responses to at least two classmates	Sunday 11:59 PM EST/EDT
Submit Programming Exercise 6	Sunday 11:59 PM EST/EDT

Module 7 Canvas and XML

Outcomes: At the conclusion of this module, students will be able to:

- Draw different types of shapes using canvas element of HTML5
- Draw images and create patterns using canvas element of HTML5.
- Explain that XML namespaces help provide unique XML element and attribute names.
- Create DTDs and schemas for specifying and validating the structure of an XML document.
- Create and use simple XSL style sheets to render XML document data.
- Retrieve and manipulate XML data programmatically using JavaScript.

Assignments:

Items to be Completed:	Due No Later Than:
Read the assigned materials	
Post Initial response to the discussion question	Thursday 11:59 PM EST/EDT
Post Responses to at least two classmates	Sunday 11:59 PM EST/EDT
Submit Programming Exercise 7	Sunday 11:59 PM EST/EDT

Module 8 Web Servers, Databases, and ASP.NET

Outcomes: At the conclusion of this module, students will be able to:

- Install and configure Internet Information Services (IIS) Express.
- Explain relational database concepts.
- Utilize Structured Query Language (SQL) to retrieve data from and manipulate data in a database.
- Install and configure MySQL.
- Develop web application using ASP.NET.

Assignments:

Items to be Completed:	Due No Later Than:
Read the assigned materials	
Post Initial response to the discussion question	Thursday 11:59 PM EST/EDT
Post Responses to at least two classmates	Sunday 11:59 PM EST/EDT
Submit Programming Exercise 8	Sunday 11:59 PM EST/EDT
Complete Exam 3	Sunday 11:59 PM EST/EDT