Course Outline

School:	Eng. Tech. & Applied Science
Department:	Information and Communication Engineering Technology (ICET)
Course Title:	Adv. Web Application Development
Course Code:	COMP 229
Course Hours/Credits:	56
Prerequisites:	COMP 100, COMP 213
Co-requisites:	N/A
Eligible for Prior Learning, Assessment and Recognition:	Yes
Originated by:	Joanne Filotti
Creation Date:	Fall 2005
Revision Date:	Summer 2014
Current Semester:	Fall 2014
Approved by:	ppesikan c/o

Chairperson/Dean

Students are expected to review and understand all areas of the course outline.

Retain this course outline for future transfer of credit applications. A fee may be charged for additional copies.

This course outline is available in alternative formats upon request.

Course Description

Adv. Web Application Development is the second course in a sequence of courses, following COMP213 and preceding a range of advanced elective Web applications and Web services courses, designed to teach students all the important current concepts and technologies related to developing powerful Internet enterprise applications.

In this second Web course the student will learn how to develop advanced Web applications that interact with databases. The major topics covered in COMP229 are client-side scripting with JavaScript, server-side scripting using ASP.NET, developing multi-tier Web applications that connect to client-server databases to retrieve business information and display the results in various browsers, securing and deploying complex data-driven application on production servers.

Program Outcomes

Successful completion of this and other courses in the program culminates in the achievement of the Vocational Learning Outcomes (program outcomes) set by the Ministry of Training, Colleges and Universities in the Program Standard. The VLOs express the learning a student must reliably demonstrate before graduation. To ensure a meaningful learning experience and to better understand how this course and program prepare graduates for success, students are encouraged to review the Program Standard by visiting http://www.tcu.gov.on.ca/pepg/audiences/colleges/progstan/aa/51901.html

Course Learning Outcomes

The student will reliably demonstrate the ability to:

1. Understand the major features and required software configuration settings for a Web server
2. Write JavaScript client-side scripts to enhance Web page functionality
3. Know how to create and configure ASP.NET Web application projects
4. Create and process Web forms
5. Retrieve records from database tables and display the information in Web pages
6. Secure and deploy integrated Web database applications

Essential Employability Skills (EES)

The student will reliably demonstrate the ability to*:

1. Communicate clearly, concisely and correctly in the written, spoken, and visual form that fulfills the purpose and meets the needs of the audience.
4. Apply a systematic approach to solve problems.
5. Use a variety of thinking skills to anticipate and solve problems.
9. Interact with others in groups or teams in ways that contribute to effective working relationships and the achievement of goals.
10. Manage the use of time and other resources to complete projects.

**There are 11 Essential Employability Skills outcomes as per the Ministry Program Standard. Of these 11 outcomes, the following will be assessed in this course.*

Global Citizenship and Equity (GC&E) Outcomes

N/A

Text and other Instructional/Learning Materials

Text Book(s):

Darie, C. & Watson, K. (2009). Beginning ASP.NET E-Commerce in C# From Novice to Professional . Apress.

ISBN 10: 1430210745

ISBN 13: 978-1430210740

Online Resource(s):

posted on facultyweb.centennialcollege.ca on a weekly basis

Evaluation Scheme

- Assignment 1: home page on studentweb
- Assignment 2: Create an interactive Web page in Visual Studio .NET using client-side JavaScript and the DOM
- Assignment 3: Use Visual Studio .NET to create and debug a Web form with client-side scripts for user input validation
- Assignment 4: Use Visual Studio .NET to create and debug a Web page with advanced JavaScript features
- Written Test 1: multiple choice, short answer, fill-in-the-blank, t/f questions
- Practical Test 1: Apply JavaScript to validate an HTML form
- Team Project: Implement an e-commerce web application
- Written Test 2: multiple choice, short answer, fill-in-the-blank, t/f questions
- Practical Test 2: Connect an ASP.Net webform to a database to display information in data-bound controls
- Written Test 3: multiple choice, short answer, fill-in-the-blank, t/f questions

Evaluation Name	CLO(s)	EES Outcome(s)	GCE Outcome(s)	Weight/100
Assignment 1	1			5
Assignment 2	2	4, 5		5
Assignment 3	2	1, 4, 5		5
Assignment 4	2	1, 4, 5		5
Written Test 1	2	1, 5		10
Practical Test 1	2	4, 5		10
Team Project	1, 2, 3, 4, 5, 6	1, 4, 5, 9, 10		15
Written Test 2	1, 3, 4	1, 4, 5		15
Practical Test 2	3, 4, 5	1, 4, 5		15
Written Test 3	3, 4, 5, 6	1, 4, 5		15
Total				100%

If students are unable to write a test they should immediately contact their professor or program Chair for advice. In exceptional and well documented circumstances (e.g. unforeseen family problems, serious illness, or death of a close family member), students may be able to write a make-up test.

All submitted work may be reviewed for authenticity and originality utilizing Turnitin®. Students who do not wish to have their work submitted to Turnitin® must, by the end of the second week of class,

communicate this in writing to the instructor and make mutually agreeable alternate arrangements.

When writing tests, students must be able to produce official College photo identification or they may be refused the right to take the test or test results will be void.

Student Accommodation

It is College Policy to provide accommodation based on grounds defined in the Ontario Human Rights Code. Accommodation may include modifications to standard practices. Students with disabilities who require academic accommodations must register with the Centre for Students with Disabilities. Students requiring accommodation based on other human rights grounds should talk with their professors as early as possible. Please see the Student Accommodation Policy.

Use of Dictionaries

- Any dictionary (hard copy or electronic) may be used in regular class work.
- Dictionaries may be used in tests and examinations, or in portions of tests and examinations, as long as they are non-electronic (not capable of storing information) and hard copy (reviewed by the invigilator to ensure notes are not incorporated that would affect test or examination integrity).

Program or School Plocies

N/A

Course Policies

N/A

College Policies

Students should familiarize themselves with all College Policies that cover academic matters and student conduct.

All students and employees have the right to study and work in an environment that is free from discrimination and harassment and promotes respect and equity. Centennial policies ensure all incidents of harassment, discrimination, bullying and violence will be addressed and responded to accordingly.

Academic honesty is integral to the learning process and a necessary ingredient of academic integrity. Academic dishonesty includes cheating, plagiarism, and impersonation. All of these occur when the work of others is presented by a student as their own and/or without citing sources of information. Breaches of academic honesty may result in a failing grade on the assignment/course, suspension or expulsion from the college.

For more information on these and other policies, please visit www.centennialcollege.ca/about-centennial/college-overview/college-policies.

Students enrolled in a joint or collaborative program are subject to the partner institution's academic

policies.

PLAR Process

This course is eligible for Prior Learning Assessment and Recognition (PLAR). PLAR is a process by which course credit may be granted for past learning acquired through work or other life experiences. The PLAR process involves completing an assessment (portfolio, test, assignment, etc.) that reliably demonstrates achievement of the course learning outcomes. Contact the academic school to obtain information on the PLAR process and the required assessment.

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Topical Outline (subject to change):

Week	Topics	Readings/Materials	Weekly Learning Outcome(s)	Instructional Strategies	Evaluation Name	Evaluation Date
1	Introduction to Database Driven Web Applications • Processes running on a Web server • Database-driven application architecture • Purpose of client-side and server-side scripts • JavaScript Overview	Slides	-understand current technologies used to create database-driven Web applications - explain the role of XML in database-driven applications - explain the various uses for client-side scripts including user input validation -describe the major features of JavaScript	_ lectures - demonstrations - hands-on exercises - class discussions	Assignment 1	
2	Introduction to JavaScript • JavaScript basic syntax • JavaScript built-in object classes • The Document Object Model • Creating client-side scripts	Lecture handouts	- use Visual Studio .NET to create HTML5/CSS3/JavaScript documents - use the DOM to access programmatically the browser functionality - create and debug JavaScript functions and event handlers - use JavaScript global functions - use decision structures and loops in JavaScript	Lecture, demonstrations and hands-on exercises, class discussions	Assignment 2	
3-4	Client-Side Scripts • Events and handlers • Form validation • Regular expressions • Script Debugging • JavaScript pop-ups • Cookies	Lecture handouts	- understand event handling using JavaScript - use JavaScript to validate user input - validate different types of fields on forms - debug scripts with various available tools - use JavaScript to create and read cookies - understand and use properly pop-ups	Lecture, demonstrations and hands-on exercises, class discussions	Assignment 3	
5	Advanced JavaScript Topics • Browser detection • Support for mobile devices • Using Ajax for communication with the server • JavaScript libraries	Class handouts	- Use JavaScript for browser detection - understand JavaScript support for mobile devices - understand and use Ajax - understand the use of JavaScript libraries and APIs	Lecture, demonstrations and hands-on exercises, class discussions	Assignment 4	

Week	Topics	Readings/Materials	Weekly Learning Outcome(s)	Instructional Strategies	Evaluation Name	Evaluation Date
	and APIs					
6	Introduction to E-Commerce and ASP.NET • Designing for business • Choosing Technologies • ASP.NET Framework • Project Components • Web Forms	Chapters 1, 2	- understand the ASP.NET framework and class libraries - use the Visual Studio .NET IDE to create and manage Web applications - create and modify Web application project components - access and reference Web forms	Lecture, demonstrations and hands-on exercises, class discussions	Written Test 1	
7	Review	N/A	N/A	hands-on exercises, class discussions	Practical Test 1	
8-9	Building Web Forms and Creating a Product Catalog • Code behind the Web Form • Dynamic Web Pages • Event Handlers in Web Forms • Rich Server Controls • Master pages • Using CSS with web forms • Connect to a database • Display product information	Chapters 2 (cont.), 3, 4, 5	- understand server-side processing - create event handlers for ASP.NET server-side controls - use rich server controls - create master pages - use CSS style sheets - use the DataList control - custom controls - debug and handle errors in ASP.NET	Lecture, demonstrations and hands-on exercises, class discussions	Team Project	
10	Searching and Improving Performance • Server-side validation • ASP.NET validation controls • Validation groups • Managing sessions	Chapters (6, 7) 8	- understand server-side validation - use the available ASP.NET validation controls - understanding session management	Lecture, demonstrations and hands-on exercises, class discussions	Written Test 2	
11	Processing Payments	Chapter (9) 10	- understand online payment services	Lecture,		

Week	Topics	Readings/Materials	Weekly Learning Outcome(s)	Instructional Strategies	Evaluation Name	Evaluation Date
	• use the Paypal payment service		- create an account - integrate the payment mechanism	demonstrations and hands-on exercises, class discussions		
12	Catalog Administration • Advanced Data and Page Techniques • Data and Output Caching	Chapters 11, 12	- understand and use DataSource control events - understand and use GridView and DetailsView events	Lecture, demonstrations and hands-on exercises, class discussions		
13	Implementing Security • Web Application Integration • Security and Membership • Web Application Deployment	Chapter 16	- prevent anonymous access to websites - secure a Web application - deploy a completed Web application to a production Web server	Lecture, demonstrations and hands-on exercises, class discussions	Practical Test 2	
14	Review	N/A	N/A	Class discussions	Written Test 3	