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
Revised by:	Joanne Filotti
Revision Date:	Winter 2015
Current Semester:	Fall 2016
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 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 COMP 125 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 third Web course the student will learn how to develop advanced Web applications that interact with databases. The major topics covered in COMP229 are 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. Students will be introduced to ASP.NET's MVC Framework.

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/. For apprenticeship-based programs, visit http://www.collegeoftrades.ca/training-standards.

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. Introduce the ASP.NET MVC Framework
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

Methods of Instruction

Lecture,

demonstrations and

hands-on exercises,

class discussions

Text and other Instructional/Learning Materials

Text Book(s):

Darie, C. & Barnett, W. 2011. Build Your Own ASP.NET 4 Website, 4th Edition. SitePoint.

ISBN 13: 978-0987090867

Online Resource(s):

posted in e-centennial on a weekly basis

Classroom and Equipment Requirements

MS Visual Studio (current version)

MS SQLServer Developer (current version)

Evaluation Scheme

- ⇨ Assignment 1: Create an ASP.NET home page on studentweb
- ⇨ Assignment 2: Create an interactive Web page in Visual Studio .NET with Server Controls
- ⇨ Assignment 3: Use Visual Studio .NET to create and debug a Web form with client/server-side scripts for user input validation
- ⇨ Assignment 4: Use Visual Studio .NET to create and debug a Web page with database content
- ⇨ Test 1: multiple choice, short answer, fill-in-the-blank, t/f questions
- ⇨ Team Project: Implement an e-commerce web application
- ⇨ Test 2: 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	1, 2	4, 5		10
Assignment 3	1, 2, 4	1, 4, 5		10
Assignment 4	1, 2, 3	1, 4, 5		10
Test 1	1, 2, 3, 4	1, 5		25
Team Project	1, 3, 4, 5, 6	1, 4, 5, 9, 10		15
Test 2	3, 4, 5, 6	1, 4, 5		25
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.

Program or School Policies

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	Course Introduction Architecture of Database Driven Web Application Introduction to ASP.NET	Chapter 1	• Static and dynamic Web applications • Web forms • Installing required software • Understanding the ASP.NET platform • Understanding the .Net Framework • Other resources	_ lectures - demonstrations - hands-on exercises - class discussions		
2	ASP.NET Basics Programming Basics	Chapters 2 and 3	• Development tools for ASP.NET • Creating a simple Web application • ASP.NET languages • Programming basics review • OOP Concepts • Help resources	Lecture, demonstrations and hands-on exercises, class discussions	Assignment 1	
3	Building ASP.NET Web Pages Using Server Controls	Chapter 4	• HTML server controls • ASP.Net Web form controls • Advanced controls • Master pages • Using CSS with Web forms	Lecture, demonstrations and hands-on exercises, class discussions		
4	Building Web Applications	Chapter 5	• Introduction to the Intranet application • Core Web application features • Starting the development of a Web application • Extending the Web application • Debugging and error handling	Lecture, demonstrations and hands-on exercises, class discussions		
5	Using Validation Controls	Chapter 6	• Server-side validation • Using ASP.NET validation controls • Validation groups	Lecture, demonstrations and hands-on exercises, class discussions	Assignment 2	
6	Managing Data Sources	Chapters 7,8	• Understanding database fundamentals • Introduction to ADO.Net • Built-in database tools • Retrieving information from a database	Lecture, demonstrations and hands-on exercises, class discussions		
7	Review and Test	N/A	N/A	hands-on exercises, class discussions	Test 1	
8	Connecting to Databases from Web Applications	Chapters 9	• Defining database connections • Using data sources in .Net • Preparing and executing commands • Using database authentication Using database authentication • Reading the data from the database	Lecture, demonstrations and hands-on exercises, class discussions	Assignment 3	

Week	Topics	Readings/Materials	Weekly Learning Outcome(s)	Instructional Strategies	Evaluation Name	Evaluation Date
			• Reading the data from the database • Inserting, modifying, deleting records			
9	Displaying Information from Databases on Web Pages Advanced Data Access	Chapter 10, 11 and 12	• Displaying data with the DataList control • Using the GridView and DetailsView control • Using Data Source controls • Working with Data Sets and Data Tables • Updating a database	Lecture Hands on demonstration		
10	Advanced Data Access Security for ASP.NET Applications	Chapter 13	• Basic security guidelines • Forms authentication • ASP.NET membership and roles	Lecture, demonstrations and hands-on exercises, class discussions	Assignment 4	
11	Extending ASP.NET Applications	Chapter 14 and 15	• Accessing files on the Web server • Sending email from a Web application • Consuming Web services • Intro to LINQ	Lecture, demonstrations and hands-on exercises, class discussions		
12	MVC Framework	Online Reading	Introduce frameworks and APIs Describe role of the Model Describe the role of the View Describe the role of the Controller	Lecture, demonstrations and hands-on exercises, class discussions		
13	ASP.Net MVC	Chapter 16 Online material	• Creating a simple MVC application in ASP.NET	Lecture, demonstrations and hands-on exercises, class discussions	Final Project	
14	Review	Online material	N/A	Class discussions	Test 2	