Applications Developer (Mobile Web Specialist)

Eastern College

PROGRAM OBJECTIVES

The Applications Developer (Mobile Web Specialist) Diploma Program is designed for the individual seeking knowledge in Web and mobile application development. More specifically, students learn how to create Web sites that are interactive and visually appealing as well as programs using a variety of different languages (Java, C#/ASP.NET, SQL). Students also learn how to create mobile apps (Android, Web, iPhone), as well as advanced Web programming, including the programming that runs on back-end Web servers.

CERTIFICATIONS

Students who successfully complete this program will be eligible for 2 certification exams which are part of the Adobe Certified Associate (ACA) in both Adobe Photoshop and Adobe Illustrator. Students are provided with these 2 certification exam vouchers to write the certifications they wish to pursue.

CAREER OPPORTUNITIES

Careers include Website Designer/Junior Web Developer; Junior Java Developer, Junior C# Developer, Junior ASP.NET Developer, SQL Developer, Web Developer; HTML5/CSS Developer, JQuery Developer, PHP Developer; Android Developer, Mobile Developer, iOS Developer, iPhone Developer, iPad Developer.

PREREQUISITES

Grade 12 or equivalent or mature student status.

GRADUATION REQUIREMENTS

A student must attain an overall average in each module of at least 70% in order to graduate and receive a diploma. A student must complete all requirements of Student Success Strategies as well as the Field Placement requirements for this program.

PROGRAM OVERVIEW

Course	Hours
Student Success Strategies	20
Software Lab – Computer Fundamentals	40
Software Lab – Word Fundamentals	20
Software Lab – Excel Fundamentals	20
Software Lab – PowerPoint Fundamentals	20
Software Lab – Access Fundamentals	20
Adobe Photoshop	40
Adobe Illustrator	40
Web Fundamentals	40
JavaScript	80
Programming Logic & Design	40
SQL Programming	80
Java Programming	80
Introduction to C# and ASP.NET Programming	80
Advanced Web Technologies	40
JQuery and CMS Development	80
Linux & Apache	40
PHP Programming	80
Android Development	80
Mobile Web Development	80
iPhone Development	80
Career Planning and Preparation Level I	20
Career Planning and Preparation Level II	20
Field Placement	8 weeks
TOTAL WEEKS	**65 weeks**

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COURSE OVERVIEW

Student Success Strategies

In this orientation module, emphasis is placed on thinking about achieving success from Day One. This module stresses the importance of developing non-technical skills to enhance personal, academic, and career success. This includes understanding learning styles and honing practical study skills, such as memory, reading, note-and test-taking techniques. Personal exercises will focus on teamwork, decision making and problem solving skills, setting SMART goals and maintaining a positive attitude; techniques for managing change, stress and conflict will also be explored.

Software Lab: Computer Fundamentals

Through a combination of theory and hands-on-practice, this module examines the role and use of the computer in today's workplace. Emphasis is placed on those computers outfitted with the Microsoft Windows operating system. Students will review basic computer concepts, Windows OS usage, and complete hands-on training exercises in business-standard software applications, including Microsoft Outlook and Microsoft Word. Keyboarding skills are also honed via daily keyboarding exercises and drills.

Software Lab – Word Fundamentals

This course consists on online training and assessment in Microsoft Word, and builds on the skills first introduced in Computer Fundamentals. Focus is on basic Word Processing skills, with emphasis on formatting text and paragraphs, inserting and modifying tables, inserting and modifying pictures, header and footer content, page set-up features, and mailing tools.

Software Lab – Excel Fundamentals

This course consists on online training and assessment in Microsoft Excel. Focus is on spreadsheet basics, with emphasis on creating, formatting and printing worksheets, creating formulas, sorting and filtering data, creating and modifying charts, creating and modifying pivot tables, and using basic mathematical and logical functions.

Software Lab – PowerPoint Fundamentals

This course consists on online training and assessment in Microsoft PowerPoint. Students are introduced to essential tools for creating attractive, professional looking slideshow presentations, with a focus on creating and formatting slides, tables, charts, and shapes, as well adding animations and transitions to slideshows.

Software Lab – Access Fundamentals

This course consists on online training and assessment in Microsoft Access. Students are introduced to database concepts, and review basic functionality for the end-user, including creating and modifying database tables, queries, reports and forms.

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Adobe Photoshop

This course teaches students how to use Photoshop to create attractive images for Web sites. Students will learn general digital graphic arts terminology, how to use the best file format for each graphic, and how to use colour palettes and tools to ensure smooth display on different platforms. This is a lab-driven course that provides the opportunity to learn the basics and to expand to an advanced understanding of the software and its capabilities through experience.This course also covers the concepts tested on the Adobe ACA: Photoshop certification examination.

Adobe Illustrator

In this course students will learn the key elements of the Illustrator interface. Students will also learn the new Live rectangle and rounded rectangle functionality, preview a path as they draw with the Pen tool, experience a new workflow for dealing with missing Typekit fonts, and use anchor point enhancements like repositioning the closing anchor point as they draw.

Web Fundamentals

This course provides students with the essential knowledge of HTML, XHTML, and XML used to develop basic Web pages and sites. Students will learn about page design, working with tables, frames, web forms, cascading style sheets, and using multimedia on the Web. In addition, they will acquire the skills to work with objects, special effects, windows and frames, XHTML and JavaScript. The course will also discuss how to create an XML document, work with namespaces, validate an XML document, and work with schemas.

JavaScript

JavaScript enables Web publishers to add interactivity and intelligence to their HTML documents, increasing the usefulness of the items they publish on the Internet. This course provides the opportunity for students to learn JavaScript, using a hands-on method, and create useful programs that integrate into their website design.

Programming Logic & Design

This course provides beginning programmers with the tools to develop object-oriented programs. This course takes a language-independent approach to ensure students develop a strong foundation in traditional programming principles and object-oriented concepts before learning the details of a specific programming language. The Instructor presents object-oriented programming terminology without highly technical language, making the course ideal for students with no previous programming experience. Common business examples clearly illustrate key points. The course begins with a strong object-oriented focus.

SQL Programming

In this course, students will learn about the theory behind relational databases, relational database nomenclature, and relational algebra. Areas covered include the Structured Query Language (SQL) as well as optimizing databases through normalization. Students will apply their knowledge with hands-on exercises designed to teach the intricacies of database design methodology.

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Java Programming

This course provides students with an overview of the basics of the Java programming language, followed by a more in-depth examination of object oriented programming, GUI applets, GUI components, strings, data structures, multi-threading, networking, database-driven Web applications and Java Web services.

Introduction to C# and ASP.NET Programming

This course provides thorough coverage of object-oriented programming fundamentals using the C# programming language. Students will examine various topics, including multi-threading, XAML, the Windows Presentation Foundation, and dynamic data structures. At the end of this course, these concepts are then applied to the ASP.NET development environment.

Advanced Web Technologies

In this course students learn the advanced capabilities of HTML5 and CSS3, including the latest features that are part of the HTML5 and CSS3 Web standards. Additionally, this course covers the basics of search engine optimization.

JQuery & CMS Development

In this course, students will learn and use advanced techniques in JavaScript programming and jQuery to create dynamic, attractive and highly-functional web pages. In learning advanced JavaScript programming, students will gain valuable experience as developers of web pages. Students will also learn how to design, install and configure a CMS driven website.

Linux & Apache

This course introduces students to the Linux operating system, the Apache Web server, and the HTTP protocol. More specifically, this course covers HTTP, Linux and Apache installation and configuration, virtual hosting, server monitoring and logging, authentication, security, caching, and Web proxies.

PHP Programming

This course follows a step-by-step introduction to the components of programming with PHP/MySQL. More specifically, this course discusses Web development and PHP, data types and operators, functions and control structures, strings, file access, arrays, MySQL databases, state information, object-oriented PHP, as well as debugging and error handling.

Android Development

In this course, students learn how to build mobile applications using the Android SDK. This course takes a hands-on approach to learning Android development with a series of projects. Each project introduces a new feature, as well as highlights techniques and best practices that allow students to develop Android applications using a variety of different methods.

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Mobile Web Development

Mobile Web Development is a course that will guide students from never having programmed with Ruby, to having a Rails application built and deployed to the web. Students will learn how to combine all the components of Rails to develop web applications. They will use test driven development to make sure applications work as designed. Students will learn how to use Git for source control and best practice techniques to create applications. Information on testing and learning to program with Ruby are also covered.

iPhone Development

This course provides students with the knowledge and skills necessary to build mobile applications for the iPhone platform. Focus will be placed on the Swift programming language and the XCode development tools.

Career Planning and Preparation Level I

This module introduces tools for planning and preparing for a successful job search, so that students can maintain a career-focused approach throughout their education program. Students will learn about the "Hidden" Job Market and ways to access it in their upcoming job search, how to research opportunities and network for industry contacts, and use appropriate etiquette when communicating with prospective employers. Students will identify their personal skills, values and preferences for the workplace, begin preparation of a professional resume and references, and organize proof documents for their career portfolio. Class discussions on various self-management topics introduced in Student Success Strategies will round out this module, which is a pre-requisite for Career Planning and Preparation - Level II.

Career Planning and Preparation Level II

This module continues to build on the concepts and skills introduced in Career Planning and Preparation - Level I. Students will learn how to conduct an effective job search and identify various methods of applying for work with today's technology. Students will create a personal list of "Top Employers" and target current industry opportunities, while finalizing their professional resume, portfolio and career correspondence. Students will learn to identify the different types and forms of interviews, practice responding to typical questions, and practice follow-up, evaluation and negotiation techniques they can use to ensure success. Self-management topics from Career Planning and Preparation - Level I will be reviewed, with a focus towards on-the-job success in both learner placements and post-graduate employment.

Field Placement

At the successful completion of the classroom hours of this program, students will be placed on an internship at an outside organization. Students will have the opportunity to apply their new and developed skills in a real-world environment. Hosts include organizations that have a technology department, or organizations that provide technology and technology services.

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