

CURRICULUM OVERVIEW

New Applications – Web Development in the 21st Century

Career and Technical Education Series



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New Applications: Web Development in the 21st Century Course Overview

New Applications introduces students to the rapidly evolving world of apps, or applications. The introduction of the Apple II in 1977 followed by the IBM PC and scores of compatible computers just four years later created strong consumer demand for software programs, as these applications were referred to at the time. Capable of formatting spreadsheets, composing and proofing hundreds of lines of text, or supporting classroom instruction, computer programs were initially sold by specialty stores, college bookstores, or through the mail.

The explosive growth of the Internet that followed at the beginning of the twenty-first century with the introduction of high-speed networking, the dynamic World Wide Web, and most recently the development of affordable smartphones and web tablets have all contributed to global, cultural, and societal change.

This course begins with a historical tour of the Internet and World Wide Web, as well as the programs and applications that made it possible for computer users on every continent to begin to explore and better understand their world. Then, through a step-by-step introduction to WordPress, students gain the tools and insight necessary to create their own web pages and discover their online voice.

In addition to learning how to use WordPress and other applications that promote students' presence on the World Wide Web, this course discusses how the web has become the foremost channel for the distribution of applications that increase the functionality of the web and support a global hub of social networking and communication. Students are introduced to the evolution of networking and data-transfer capabilities beginning with early HTTP protocols continuing through to the recent introduction of smartphones capable of connecting to sites on the World Wide Web without having to rely on a browser for navigation.

The course concludes with a survey of the continuing explosion of new apps, or applications, designed to operate on one or more of the proprietary mobile devices (smartphones, tablets, and netbooks). Students are given an opportunity to track fundamental changes in this growing industry as development has moved from the original model of a single experienced programmer developing a single app for distribution at little or no cost to a model in which retailers, non-profit organizations, government agencies, and Fortune 500 companies contract with mid-sized marketing and communications firms to develop sophisticated apps designed to raise global market and public awareness of institutions and issues. Additionally, students have an opportunity to understand that career opportunities in app development have evolved from programming and coding to now include marketing, public relations, creative arts, project and product management and sales, with a growing number of careers in the industry requiring little if any actual programming experience.

New Applications is a survey course that travels from the first software programs developed to facilitate communication on the Internet to the new generation of mobile and native apps that access the Internet without a reliance on a web browser. New Applications is also a practical course in how to develop a presence on the World Wide Web using WordPress and other available web-application tools. The goal of the course is to provide the learner insight into the rapidly evolving universe of programming and application development so that he or she can make informed career decisions in an industry that is changing as quickly as it is growing.

Objectives

- Describe major advances in network and communications technology beginning with the early Internet and continuing through the introduction of web-enabled smartphones and other devices.
- Create a web presence using simple applications.
- Evaluate and select from a variety of web development tools and apps those most appropriate for their interests and needs.
- Design a current generation app for use on a smartphone or tablet.
- Evaluate the education and training qualities and experiences essential to secure a position with growth potential in the app industry

This is an introductory course in the history and development of new applications for use on web-enabled devices including personal computers, tablets, smartphones, and ultrabooks. While there are no specific prerequisites for this course, students should have a basic understanding of the Internet, the World Wide Web, browsers, file formats, hardware, and software applications. Students who have working knowledge of IP addressing, programming, the differences among local, wide-area, and cloud-computing networks, as well as the current state of mobile devices will be well prepared to complete this course.

Unit 1: The World Wide Web: History and Definitions		
New Applications	Assignments	
	1. Course Overview	10. The Editor's Two Flavors: HTML (Part Two)
	2. History of the Web in a Nutshell	11. Project: On Assignment as a Web Developer
	3. Project: The Interconnected Internet	12. The Wave of the Present
	4. File Sizes and Resolution	13. Quiz 2: Hosted and Non-Hosted Applications
	5. Project: Consulting	14. Project: Special Project*
	6. Hosted vs. Local Computing	15. Unit 1 Test
	7. Quiz 1: Defining the Web	16. Course Project Part 1: The Home Page*
	8. Manual Transmission: HTML (Part One)	17. Glossary and Credits
	9. Project: Developing HTML	

Unit 2: Website Design on Content-Managed Platforms		
New Applications	Assignments	
	1. WordPress Roles	10. Third Party Add-ons
	2. Project: Developing a WordPress Account	11. Project: A Comparative Study of Apps, Plugins, and Extension
	3. WordPress Themes	12. Quiz 2: Website Elements
	4. Project: Marketing to a Potential Client	13. Project: Special Project*
	5. Topography	14. Unit 2 Test
	6. Quiz 1: WordPress Components	15. Course Project Part 2: Planning the Site*
	7. Detailed Editors	16. Glossary and Credits
	8. Widgets	
	9. Project: Bringing It All Together	

Unit 3: Managing Site Creation		
New Applications	Assignments	
	1. Assigning Roles	9. Approvals, Change Orders, and Last-Minute Edits
	2. Project: Photos, Videos, and Sound Files in WordPress	10. Self-Evaluation and Your Projects
	3. Designing the Website	11. Project: Baseline, Benchmark, Objective, and Goal
	4. Project: Creating Posts	12. Quiz 2: Working Together
	5. Developing the Content	13. Project: Special Project*
	6. Quiz 1: Bringing It All Together	14. Unit 3 Test
	7. Publishing Deadlines	15. Course Project Part 3: Under Construction*
	8. Project: Creating a Statement of Work	16. Glossary and Credits

Unit 4: Internet-Distributed Applications		
New Applications	Assignments	
	1. What Are Internet Distributed Applications?	9. Project: RSS Feed Comparisons
	2. Project: What Is Cloud Computing?	10. Report on the Present
	3. Distribution of Internet Applications	11. Project: Find Your Own Trends
	4. Project: Are You Online or Offline?	12. Evaluating Products and Services
	5. The Internet – Revolutionary Path to Applications	13. Quiz 2: Emerging Trends
	6. Project: New Technology: Autos vs. Internet	14. Project: Special Project*
	7. Quiz 1: Introduction to Internet-Distributed Applications	15. Unit 4 Test
	8. Strategies for Keeping Well-informed	16. Course Project Part 4: Reviewing Web Applications*
		17. Glossary and Credits

Unit 5: New Apps: Creativity and Careers		
New Applications	Assignments	
	1. The Mobile Apps Industry	10. Technology Advances, Careers Redefined
	2. Project: Apps Review	11. Project: Next Year's App Solution
	3. Building Apps	12. Quiz 2: Career Choices: Solo or Solid
	4. Health Considerations in Developing Apps	13. Project: Special Project*
	5. Project: The Ergonomic App Development Office	14. Unit 5 Test
	6. Quiz 1: A New Industry	15. Course Project Part 5: The Mobile App Hall of Fame*
	7. Entrepreneurial App Development	16. Glossary and Credits
	8. Project: Researching Network Operating Systems	
	9. Expanding Career Opportunities	

Unit 6: Course Review, and Exam		
	Assignments	
	1. Course Project Part 6: The Future of Apps Blog*	3. Exam
	2. Review	

(*) Indicates alternative assignment