



Curriculum Catalog

Career and Technical Education Series

**New Applications: Web Development in  
the 21st Century**

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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

## New Applications: Web Development in the 21st Century

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

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

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

Unit 4: Internet Distributed Applications		
Assignments		
New Applications	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 Is a Revolutionary Path to Application Development	13. Quiz 2: Emerging Trends
	6. Project: New Technology: Autos vs. Internet	14. Special Project*
	7. Quiz 1: Introduction to Internet Distributed Applications	15. Unit 4 Test
	8. Strategies for Keeping Well-informed about New Trends and Developments	16. Course Project Part 4: Reviewing Web Applications*
	17. Glossary and Credits	

Unit 5: New Apps: Creativity and Careers		
Assignments		
New Applications	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. 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 in a New Industry	

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

(\*) Indicates alternative assignment