

Implementation Date
Fall 2008

PROGRAM CONCENTRATION
CAREER PATHWAY:
COURSE TITLE:

Business & Computer Science
Interactive Media
Advanced Web Design

The goal of this course is to provide students with the study of advanced topics in web design. *Computer in the Modern World* and *Beginning Web Design* are both prerequisites for this course. Upon completion of this course, students should have a thorough knowledge of all areas of web page design. Topics include the web development process, advanced layout and design features, advanced study of scripting languages, site development with HTML editors, and web servers and databases. This course also prepares students to take the CIW Associate Design Specialist Certification.

OVERVIEW OF WEB DESIGN

BCS-AWD-1. Students will explore web design concepts, the current state of the web, and technologies used on the web.

- a. Identify, evaluate, compare, and contrast web browsers.
- b. Identify and describe plug-ins, applets and other web based utilities.

Academic Standards:

ELA12W3. The student uses research and technology to support writing.

ELA12RC3. The student acquires new vocabulary in each content area and uses it correctly.

BCS-AWD-2. Students will examine ethical and legal issues related to web development.

- a. Discuss and develop strategies for handling privacy issues.
- b. Distinguish between legal and ethical issues.
 1. Discuss appropriate and inappropriate content on sites such as Facebook and My Space.
- c. Describe security issues associated with web servers.

Academic Standards:

ELA12LSV1. The student participates in student-to-teacher, student-to-student, and group verbal interactions.

ELA12RC2. The student participates in discussions related to curricular learning in all subject areas.

SSCG7. The student will describe how thoughtful and effective participation in

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civic life is characterized by obeying the law, paying taxes, serving on a jury, participating in the political process, performing public service, registering for military duty, being informed about current issues, and respecting differing opinions.

SSCG21. The student will demonstrate knowledge of criminal activity.

SSEF5. The student will describe the role of government in a market economy.

PLANNING, DESIGNING, IMPLEMENTATION, & EVALUATION

BCS-AWD-3. Students will demonstrate an understanding of project management, phases, the use of teams, and portfolios in web development.

- a. List and describe the phases of website development.
- b. Construct a website using project management techniques.
- c. List the pros and cons of individual versus team web site development.
- d. Create a portfolio.

Academic Standards:

ELA12W1. The student produces writing that establishes an appropriate organizational structure, sets a context and engages the reader, maintains a coherent focus throughout, and signals a satisfying closure.

ELA12W2. The student demonstrates competence in a variety of genres.

ELA12C1. The student demonstrates understanding and control of the rules of the English language, realizing that usage involves the appropriate application of conventions and grammar in both written and spoken formats.

MM4P4. Students will make connections among mathematical ideas and to other disciplines.

BCS-AWD-4. Students will demonstrate the ability to evaluate and develop a site's aesthetic qualities.

- a. Identify key concepts in usability evaluation (creating a coherent, unified message, controlling user's focus, and visual consistency).
- b. Identify common navigation conventions.
- c. Develop and apply a navigation action plan.

Academic Standards:

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ELA12LSV2. The student formulates reasoned judgments about written and oral communication in various media genres. The student delivers focused, coherent, and polished presentations that convey a clear and distinct perspective, demonstrate solid reasoning, and combine traditional rhetorical strategies of narration, exposition, persuasion, and description.

ELA12RC3. The student acquires new vocabulary in each content area and uses it correctly.

ELA12RC4. The student establishes a context for information acquired by reading across subject areas.

BCS-AWD-5. Students will examine and apply website testing, publishing, and maintenance concepts.

- a. Develop and apply a testing plan.
- b. Identify the steps and tools for publishing a website.
- c. Discuss key issues in maintenance.

Academic Standards:

ELA12W2. The student demonstrates competence in a variety of genres.

ELA12LSV1. The student participates in student-to-teacher, student-to-student, and group verbal interactions.

ELA12RC2. The student participates in discussions related to curricular learning in all subject areas.

DIGITAL MEDIA ON THE WEB

BCS-AWD-6. Students will demonstrate the effective use of multimedia.

- a. Evaluate image file formats for use in web development.
- b. Create and edit images using image-editing software.
- c. Create web pages that include audio and video.

Academic Standards:

ELA12W2. The student demonstrates competence in a variety of genres.

ELA12W3. The student uses research and technology to support writing.

ELA12RC3. The student acquires new vocabulary in each content area and uses it correctly.

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ADVANCED LAYOUT FEATURES

BCS-AWD-7. Students will explore advanced web page layout features and concepts.

- a. Discuss the pros and cons of layout techniques such as tables, frames and cascading style sheets.

Academic Standards:

ELA12LSV1. The student participates in student-to-teacher, student-to-student, and group verbal interactions.

ELA12W2. The student demonstrates competence in a variety of genres.

ELA12W3. The student uses research and technology to support writing.

ELA12RC2. The student participates in discussions related to curricular learning in all subject areas.

ELA12RC3. The student acquires new vocabulary in each content area and uses it correctly.

ADVANCED FEATURES OF MARK-UP & SCRIPTING LANGUAGES

BCS-AWD-8. Students will identify, compare and contrast, and use various scripting and mark-up languages used on the internet.

- a. Compare and contrast XML versus XHTML and DHTML versus XHTML.
- b. Summarize the history of scripting languages.
- c. Apply scripting languages to enhance web pages.
- d. Identify browser issues with DHTML.

Academic Standards:

ELA12W2. The student demonstrates competence in a variety of genres.

ELA12W3. The student uses research and technology to support writing.

ELA12RC3. The student acquires new vocabulary in each content area and uses it correctly.

SITE DEVELOPMENT WITH HTML EDITORS & SCALABLE VECTOR GRAPHIC PROGRAMS

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BCS-AWD-9. Students will demonstrate advanced website development with HTML editors and scalable vector graphics programs.

- a. Identify and compare and contrast site development software.
- b. Use advanced features of site development software.
Sample Task: Develop one or more templates for use in a website.
- c. Create animation using Scalable Vector Graphics (SVG) programs.

Academic Standards:

MM3P4. Students will make connections among mathematical ideas and to other disciplines.

ELA12W2. The student demonstrates competence in a variety of genres.

ELA12W3. The student uses research and technology to support writing.

ELA12RC3. The student acquires new vocabulary in each content area and uses it correctly.

WEB SERVERS & DATABASES

BCS-AWD-10. Students will demonstrate an understanding of the use of databases in site development.

- a. Use a database to create a dynamic web page.
Sample Task: Add a search feature to a website.
- b. Define the elements of a database and their functionality.
- c. Construct SQL queries.

Academic Standards:

MM3P4. Students will make connections among mathematical ideas and to other disciplines.

ELA12W3. The student uses research and technology to support writing.

ELA12RC3. The student acquires new vocabulary in each content area and uses it correctly.

CTAE Foundation Skills

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The Foundation Skills for Career, Technical and Agricultural Education (CTAE) are critical competencies that students pursuing any career pathway should exhibit to be successful. As core standards for all career pathways in all program concentrations, these skills link career, technical and agricultural education to the state's academic performance standards.

The CTAE Foundation Skills are aligned to the foundation of the U. S. Department of Education's 16 Career Clusters. Endorsed by the National Career Technical Education Foundation (NCTEF) and the National Association of State Directors of Career Technical Education Consortium (NASDCTEc), the foundation skills were developed from an analysis of all pathways in the sixteen occupational areas. These standards were identified and validated by a national advisory group of employers, secondary and post secondary educators, labor associations, and other stakeholders. The Knowledge and Skills provide learners a broad foundation for managing lifelong learning and career transitions in a rapidly changing economy.

CTAE-FS-1 Technical Skills: Learners achieve technical content skills necessary to pursue the full range of careers for all pathways in the program concentration.

CTAE-FS-2 Academic Foundations: Learners achieve state academic standards at or above grade level.

CTAE-FS-3 Communications: Learners use various communication skills in expressing and interpreting information.

CTAE-FS-4 Problem Solving and Critical Thinking: Learners define and solve problems, and use problem-solving and improvement methods and tools.

CTAE-FS-5 Information Technology Applications: Learners use multiple information technology devices to access, organize, process, transmit, and communicate information.

CTAE-FS-6 Systems: Learners understand a variety of organizational structures and functions.

CTAE-FS-7 Safety, Health and Environment: Learners employ safety, health and environmental management systems in corporations and comprehend their importance to organizational performance and regulatory compliance.

CTAE-FS-8 Leadership and Teamwork: Learners apply leadership and teamwork skills in collaborating with others to accomplish organizational goals and objectives.

CTAE-FS-9 Ethics and Legal Responsibilities: Learners commit to work ethics, behavior, and legal responsibilities in the workplace.

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CTAE-FS-10 Career Development: Learners plan and manage academic-career plans and employment relations.

CTAE-FS-11 Entrepreneurship: Learners demonstrate understanding of concepts, processes, and behaviors associated with successful entrepreneurial performance.