

Web Based Instructional Design Model*

Problem Analysis

What problems are you trying to address?

Graphic design and web design has long been thought of as two separate fields. Graphic design mainly incorporates the principles of design whereas web design focuses on the technical aspect of coding and programming. Emerging technology has changed the way designers create and generate art. With these technology changes, there is a need for designers to be diverse in both the aesthetics of design and the underlying functionality and creation of web design using the tools most prevalent in the digital design industry.

The Applied Science & Business division at College of the Desert is aligning courses to meet Career and Technical Education (CTE) standards for students entering into the workforce using the California Governor's CTE initiative ([SB 70/SB 1133](#)).

"The state of California has identified 15 Industry Sectors. Each sector contains multiple career pathways in which to develop Programs of Study. It is up to individual school districts and the region's corresponding colleges and businesses to conduct research into the needs of the industry and determine which sectors and careers can best serve the students, industry and community." (Retrieved September 21, 2011 from <http://statecenter.com/resources/industry-sectors>).

Actual: There is a separation in classes in Digital Design & Production (DDP) and Computer Information Systems (CIS) offered within the Applied Science and Business Division. Specifically, New Media and Web Publishing are two classes with disciplines that overlay into the web design versus web programming realm. One class offers solely web design and the other offers web publishing; both classes utilize the same industry-standard software in their instruction. There is an overlap in the disciplines that needs to be addressed to accommodate students entering into

the current technology-driven workforce where skills of both design and programming are required for entry-level positions.

Problem (Gap): Students will be provided with instruction on basic design principles applied to construction of actual web pages using both HTML/CSS code and design knowledge in one class.

Optimal: The Digital Design student is being groomed as both a designer and a programmer. Coding will be intrinsically linked to the design process. Knowledge of graphic design principles along with basic HTML/CSS coding will help the student enter the workforce with the skills needed for professional web design and publishing.

What are the symptoms of the problems?

The symptoms of the problem are exhibited in student knowledge and skill base upon graduation. The DDP student currently has a different skill set than the CIS student. Both design and programming disciplines are needed for entry-level web page design.

What is the root cause of the problem?

The root cause of the problem is the separation in thinking of art and technology as separate entities by each department rather than a profession as a whole. The tools used by designers today are technologically driven. Web page creation requires the ability to effectively layout a page using design principles. The overlap of design and creation exists in creating and publishing a web page. In order to create a successful web design, knowledge of both how a page should look and how to make it work are essential for the web designer.

Is instruction an appropriate solution to the problem?

Yes, offering a class that covers both design and programming would help prepare the student in the web design field.

Is WBI an appropriate instructional solution?

Web-based Instruction (WBI) is the most natural instructional solution since most of the projects are web-based and require the internet and a server to successfully create and review web pages. Instructors are able to provide content and further exploration of concepts can be done using the web. Testing/validation are done via the web as well as the ability to see coursework published online. Students will be able to discuss designs and view code through a web-based course in a full-online format. WBI is a natural fit for this course.

Instructional Goal Statement

Upon completion of this course, students will be able to design and create web pages using industry-standard software. Students will apply basic principles/elements of design to web page creation/publishing using HTML and CSS programming language.

Standards Being Addressed

There are two sets of standards this course is aligned to, [Career and Technical Education \(CTE\)](#) and the [International Society for Technology in Education \(ISTE\)](#). These standards, identified throughout the Digital Design & Production curriculum at College of the Desert, are integrated into the various activities students engage in during each project. The following ISTE standards are met in this course:

I. Creativity and Innovation

Students demonstrate creative thinking, construct knowledge, and develop innovative products and processes using technology. Students:

- A. apply existing knowledge to generate new ideas, products, or processes.
- B. create original works as a means of personal or group expression.
- C. use models and simulations to explore complex systems and issues.
- D. identify trends and forecast possibilities

II. Communication and Collaboration

Students use digital media and environments to communicate and work collaboratively, including at a distance, to support individual learning and contribute to the learning of others. Students:

- A. interact, collaborate, and publish with peers, experts or others employing a variety of digital environments and media.
- B. communicate information and ideas effectively to multiple audiences using a variety of media and formats.
- C. develop cultural understanding and global awareness by engaging with learners of other cultures.
- D. contribute to project teams to produce original works or solve problems.

III. Research and Information Fluency

Students apply digital tools to gather, evaluate, and use information. Students:

- A. plan strategies to guide inquiry.
- B. locate, organize, analyze, evaluate, synthesize, and ethically use information from a variety of sources and media.
- C. evaluate and select information sources and digital tools based on the appropriateness to specific tasks.
- D. process data and report results.

IV. Critical Thinking, Problem-Solving & Decision-Making

Students use critical thinking skills to plan and conduct research, manage projects, solve

problems and make informed decisions using appropriate digital tools and resources. Students:

- A. identify and define authentic problems and significant questions for investigation.
- B. plan and manage activities to develop a solution or complete a project.
- C. collect and analyze data to identify solutions and/or make informed decisions.
- D. use multiple processes and diverse perspectives to explore alternative solutions.

V. Digital Citizenship

Students understand human, cultural, and societal issues related to technology and practice legal and ethical behavior. Students:

- A. advocate and practice safe, legal, and responsible use of information and technology.
- B. exhibit a positive attitude toward using technology that supports collaboration, learning, and productivity.
- C. demonstrate personal responsibility for lifelong learning.
- D. exhibit leadership for digital citizenship.

VI. Technology Operations and Concepts

Students demonstrate a sound understanding of technology concepts, systems and operations. Students:

- A. understand and use technology systems.
- B. select and use applications effectively and productively.
- C. troubleshoot systems and applications.
- D. transfer current knowledge to learning of new technologies.

Context Analysis

| Context Elements | Characteristics |
|-------------------------------|---|
| Organizational infrastructure | <ul style="list-style-type: none"> • This course will be delivered through the campus-designated LMS. • After successful design and implementation, all rights to course content will be the property of College of the Desert (COD). Successful completion will teaching course for one full semester (16 weeks) with a stipend at the end of the semester. • IT support will be provided by designated |

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| | campus personnel. |
| Allocation and competencies of personnel | <ul style="list-style-type: none"> • This course will be designed and taught by an instructor with a strong knowledge of related content and design skills. • Technical troubleshooting for LMS will be directed to IT campus personnel at COD. • Troubleshooting related to content will be handled by the instructor. • Website and instructional materials will be created and maintained by the instructor. • Enrollment and fee payments will be maintained through COD WebAdvisor. |
| Learner location and technology | <ul style="list-style-type: none"> • Student participants are located off-campus. • Student participants are required to access this course online, preferably from home. • A computer with high-speed internet access and an email account will be required. • Hardware requirements: Windows or Mac computer • Software requirements: Adobe Creative Suite 5 Premium software |

Learner Analysis

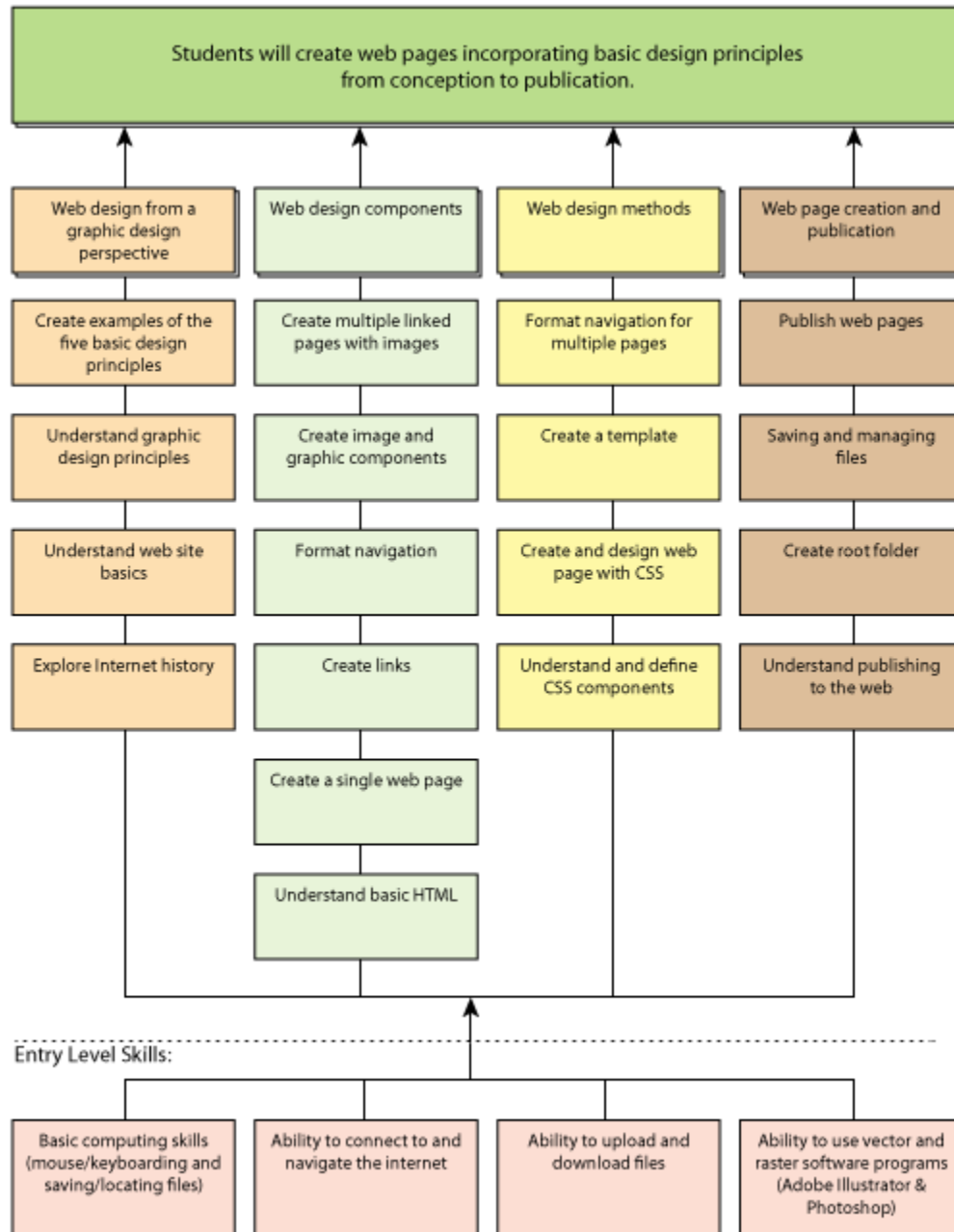
General learner characteristics: Students taking this course are adult learners seeking a certificate or degree in Digital Design & Production (DDP). Students may also take this course as an elective for Computer Science degrees and certificates. Typical student age ranges from 18-65. Students have diverse socio-economic backgrounds. Student population includes international students who speak English as a second language (ESL).

Motivation: This course is a required course for the DDP certificate or degree. Due to this requirement, student motivation is typically high.

Prior knowledge and skills: This course requires learners to have basic computing and internet skills to include: general mouse and keyboarding skills, saving and locating files, connect to and navigate the internet with the ability to upload/download files, and prior knowledge of raster and vector programs.

Accessibility: Due to the high visual content of this course, learners will be required to respond to and create visual designs. Learners with visual impairments will need assistance in this course. Instructional activities may require modification to accommodate learners with visual impairments such as color blindness.

Learning Task Map



***Image Reference (page 1):**

Davidson-Shivers, G. V. & Rasmussen, K.L. (2006). *Web-Based Learning: Design, Implementation, and Evaluation*. New Jersey: Pearson.