

## Overview

Welcome to EDTECH 506: Instructional Message Design. This course will introduce you to the application of learning theory, principles of visual literacy, and graphic design techniques for instructional media development. You will learn how to select and combine visual and text representations to effectively communicate instructional information.

In this course you will explore the principles of visual literacy and apply them to a variety of instances in instructional design, instructional technology and information presentation. Topics include the theoretical foundations of visual learning, the role of perception in communication and learning, verbal and visual communications, and visual and information design.

If we are to consider the use of visuals and graphics in education, we first need to answer the why question. In other words, why use images? What problem will images solve? Properly used, images can help people to learn better than from text alone. Although graphics can serve as aids to human learning, understanding, and reasoning, it is clear that all graphics are not equally effective. How can you design graphics that help people learn, understand, or reason? This course will present evidence-based research that will help you to design graphics to help people learn, and are consistent with how people learn. In the end, you will learn what kinds of graphics are best for helping which kinds of learners with which kinds of learning material under which kinds of learning conditions.

This course is intended for graduate students from all colleges who have an interest in the design of visuals, images, and graphics for instructional purposes. It is a completely online course. Lasting 16 weeks, it will include asynchronous activities. The pre-requisites for this course is EDTECH 503: Instructional Design.

## Learning Goals

After completing this course the student will:

- Become conversant in the literature surrounding the use of images in instruction.
- Understand and apply the use of visuals to support the psychological learning process.
- Develop and display a variety of graphics for different lesson content types.
- Integrate these visuals into an entire unit of instruction.
- Design instructional messages based on principles from behavioral and cognitive psychology.
- Apply visual literacy to the design of instructional messages.
- Select and apply principles of instructional message design when developing instructional materials and presentations.
- Select appropriate combinations of text, images, and audio representations to create instructional messages.
- Develop instructional content that integrates multiple instructional messages to achieve identified learning goals.
- Use various media to enhance instructional messages.

- Identify appropriate strategies for using various media to support delivery of an instructional message.

### Audience:

This is a graduate level course intended for those students who have an interest in the design of graphics for instruction. Although familiarity with the literature will be helpful, it is not required. Those students who have an interest in pursuing in-depth study and application in this field should consider this course as a foundational piece in their knowledge base. Students will be expected to exhibit a high level of independent, scholarly thought and design ability.

Course begins: August 24, 2009  
 Course ends: December 11, 2009  
 Instructor: Dr. Dennis Beck

About the instructor: Dennis Beck is a visiting assistant professor at the Boise State University. His research interests include the virtual representation of selves, narrative and technology, and the autobiographies of exemplary technology using teachers.

### Textbooks:

1. Required:
  - a. Clark, R. C. & Lyons, C. (2004). Graphics for learning: Proven guidelines for planning, designing, and evaluating visuals in training materials. John Wiley and Sons, Inc, San Francisco, CA
  - b. Lynda.com subscription (Repository of online software tutorials)
2. Optional:
  - a. Lohr, L. ( 2007). **Creating** Graphics for Learning and Performance: Lessons in Visual Literacy, Second Edition. Cleveland, OH: Prentice-Hall.

### Goals by Module

1. Introduction to Instructional Message Design and Visual Literacy
  - a. Instructional Message Design Module 1: Course Orientation (August 24)
    - A. Students will understand the structure of the course and assignments
    - B. Students will comprehend and use the "Fireworks CS4 Getting Started" tutorial
    - C. Students will become acquainted with peers in the course
  - b. Instructional Message Design Module 2: Principles and Building Blocks of Visual Literacy (August 31)
    - A. Students will comprehend and use sections 1 through 5 of the "Fireworks CS4 Essential Training" tutorial.
    - B. Students will read and reflect on the definition of visual literacy and related terminology
    - C. Students will comprehend and apply visual design elements and principles.
    - D. Students will compose an introduction to self through the use of images.
  - c. Instructional Message Design Module 3: A Different Perspective on Visual Design (September 7)
    - A. Students will comprehend and use sections 6 through 11 of the "Fireworks CS4 Essential Training" tutorial.
    - B. Students will read and reflect on Art, Design, and Visual Thinking.
    - C. Students will compose an educational activity through the use of images.

- d. Instructional Message Design Module 4: Building a Conceptual Basis for a Design Model (September 14)
  - A. Students will explain and reflect on the different perspectives on visuals and a model for instructional visual design
  - B. Students will select a unit of instruction to complete for the semester-long project.
- 2. Using Visuals to Support the Learning Process
  - a. Instructional Message Design Module 5: Learning processes, attention, and prior knowledge (September 21)
    - A. Students will read and reflect on the use of graphics to influence learning processes, direct attention, and awaken prior knowledge.
    - B. Students will begin to synthesize a unit of instruction using principles of visual literacy and the visual design model.
  - b. Instructional Message Design Module 6: Memory Load, transfer, and mental models (September 28)
    - A. Students will read and reflect on the use of graphics to minimize memory load, support transfer of learning, and help learners build mental models.
    - B. Students will continue to synthesize a unit of instruction using principles of visual literacy and the visual design model.
  - c. Instructional Message Design Module 7: Motivation and learner differences (October 5)
    - A. Students will read and reflect on the use of graphics to motivate learning and accommodate learner differences
    - B. Students will continue to synthesize a unit of instruction using principles of visual literacy and the visual design model.
- 3. Visualizing Lesson Content (October 12)
  - a. Instructional Message Design Module 8: Visualizing procedures and concepts
    - A. Students will read and reflect on the use of graphics to visualize procedures and concepts
    - B. Students will continue to synthesize a unit of instruction using principles of visual literacy and the visual design model.
  - b. Instructional Message Design Module 9: Visualizing facts and processes (October 19)
    - A. Students will read and reflect on the use of graphics to visualize facts and processes
    - B. Students will continue to synthesize a unit of instruction using principles of visual literacy and the visual design model.
  - c. Instructional Message Design Module 10: Visualizing principles and defining the visual context (October 26)
    - A. Students will read and reflect on the use of graphics to visualize principles and how to define the visual context
    - B. Students will continue to synthesize a unit of instruction using principles of visual literacy and the visual design model.
- 4. Planning and Communicating Your Visuals (November 2)
  - a. Instructional Message Design Module 11: Designing the visual approach and visualizing individual graphics

- A. Students will read and reflect on designing the visual approach and visualizing individual graphics
  - B. Students will continue to synthesize a unit of instruction using principles of visual literacy and the visual design model.
- b. Instructional Message Design Module 12: Communicating graphic plans and applying visual design principles (November 9)
    - A. Students will read and reflect on how to communicate graphic plans and apply the principles of visual design
    - B. Students will continue to synthesize a unit of instruction using principles of visual literacy and the visual design model.
5. Putting it all together: Comprehensive Visual Design and Web 2.0 tools (November 16)
- a. Instructional Message Design Module 13: The visual design of web 2.0
    - A. Students will read and reflect on the visual design of Web 2.0 sites.
    - B. Students will integrate this kind of design into their unit of instruction.
  - b. Instructional Message Design Module 14: Integrating Web 2.0 tools and resources (November 23)
    - A. Students will read and reflect on a variety of Web 2.0 tools
    - B. Students will integrate Web 2.0 tools and design into their unit of instruction
  - c. Instructional Message Design Module 15: The final project (December 7)
    - A. Students will develop a comprehensive unit of instruction using principles of visual literacy, the visual design model, and Web 2.0 principles.

## **AECT Standards (Association for Educational Communications and Technology)**

### Standard 1: DESIGN

Candidates demonstrate the knowledge, skills, and dispositions to design conditions for learning by applying principles of instructional systems design, message design, instructional strategies, and learner characteristics.

#### Supporting Explanations:

*"Design is the process of specifying conditions for learning"* (Seels & Richey, 1994, p. 30). The domain of design includes four subdomains of theory and practice: Instructional Systems Design (ISD), Message Design, Instructional Strategies, and Learner Characteristics.

#### 1.1 Instructional Systems Design (ISD)

*"Instructional Systems Design (ISD) is an organized procedure that includes the steps of analyzing, designing, developing, implementing, and evaluating instruction"*(Seels & Richey, 1994, p. 31).

Within the application of this definition, 'design' is interpreted at both a macro- and micro-level in that it describes the systems approach and is a step within the systems approach. The importance of process, as opposed to product, is emphasized in ISD.

1.1.1 Analyzing: process of defining what is to be learned and the context in which it is to be learned.

1.1.2 Designing: process of specifying how it is to be learned.

1.1.3 Developing: process of authoring and producing the instructional materials.

#### 1.2 Message Design

*"Message design involves planning for the manipulation of the physical form of the message"* (Seels & Richey, 1994, p. 31). Message design is embedded within learning theories (cognitive, psychomotor, behavioral, perceptual, affective, constructivist) in the application of known principles

of attention, perception, and retention which are intended to communicate with the learner. This subdomain is specific to both the medium selected and the learning task.

### 1.3 Instructional Strategies

*"Instructional strategies are specifications for selecting and sequencing events and activities within a lesson"* (Seels & Richey, 1994, p. 31). In practice, instructional strategies interact with learning situations. The results of these interactions are often described by instructional models. The appropriate selection of instructional strategies and instructional models depends upon the learning situation (including learner characteristics), the nature of the content, and the type of learner objective.

### 1.4 Learner Characteristics

*"Learner characteristics are those facets of the learner's experiential background that impact the effectiveness of a learning process"* (Seels & Richey, 1994, p. 32). Learner characteristics impact specific components of instruction during the selection and implementation of instructional strategies. For example, motivation research influences the selection and implementation of instructional strategies based upon identified learner characteristics. Learner characteristics interact with instructional strategies, the learning situation, and the nature of the content.

## Standard 2: DEVELOPMENT

Candidates demonstrate the knowledge, skills, and dispositions to develop instructional materials and experiences using print, audiovisual, computer-based, and integrated technologies.

### Supporting Explanation:

*"Development is the process of translating the design specifications into physical form"* (Seels & Richey, 1994, p. 35). The domain of development includes four subdomains : Print Technologies, Audiovisual Technologies, Computer-Based Technologies, and Integrated Technologies. Development is tied to other areas of theory, research, design, evaluation, utilization, and management.

### 2.1 Print Technologies

*"Print technologies are ways to produce or deliver materials, such as books and static visual materials, primarily through mechanical or photographic printing processes"* (Seels & Richey, 1994, p. 37). Print technologies include verbal text materials and visual materials; namely, text, graphic and photographic representation and reproduction. Print and visual materials provide a foundation for the development and utilization of the majority of other instructional materials.

### 2.2 Audiovisual Technologies

*"Audiovisual technologies are ways to produce or deliver materials by using mechanical devices or electronic machines to present auditory and visual messages"* (Seels & Richey, 1994, p. 38). Audiovisual technologies are generally linear in nature, represent real and abstract ideas, and allow for learner interactivity dependent on teacher application.

### 2.3 Computer-Based Technologies

*"Computer-based technologies are ways to produce or deliver materials using microprocessor based resources"* (Seels & Richey, 1994, p. 39). Computer-based technologies represent electronically stored information in the form of digital data. Examples include computer-based instruction(CBI), computer-assisted instruction (CAI), computermanaged instruction (CMI), telecommunications, electronic communications, and global resource/reference access.

### 2.4 Integrated Technologies

*"Integrated technologies are ways to produce and deliver materials which encompass several forms of media under the control of a computer"* (Seels & Richey, 1994, p. 40). Integrated technologies are typically hypermedia environments which allow for: (a) various levels of learner control, (b) high levels of interactivity, and (c) the creation of integrated audio, video, and graphic environments. Examples include hypermedia authoring and telecommunications tools such as electronic mail and the World Wide Web.

### Standard 3: UTILIZATION

Candidates demonstrate the knowledge, skills, and dispositions to use processes and resources for learning by applying principles and theories of media utilization, diffusion, implementation, and policy-making.

#### Supporting Explanations

*"Utilization is the act of using processes and resources for learning"* (Seels & Richey, 1994, p. 46). This domain involves matching learners with specific materials and activities, preparing learners for interacting with those materials, providing guidance during engagement, providing assessment of the results, and incorporating this usage into the continuing procedures of the organization.

#### 3.1 Media Utilization

*"Media utilization is the systematic use of resources for learning"* (Seels & Richey, 1994, p. 46). Utilization is the decision-making process of implementation based on instructional design specifications.

### Conceptual Framework

College of Education Conceptual Framework

[The Professional Educator](#)

Department of Educational Technology

[Mission Statement](#)

### Course Policies

*Procedures* - each week follow the instructions contained in Moodle for the week. Instructions will be located in the weekly assignments area of Moodle and will contain a link to one or more audio presentations discussing the week's activities.

*Communication* – the instructor will respond to emails and/or phone calls in a timely manner – usually within 24 hours (weekdays, but 48 hours on a weekend). If you do not receive a timely response, please contact him again to make sure that the communication was received. Your instructor will communicate with you through your BSU BroncoMail account so be sure to check your email often.

*Posting of Assignments* – assignments will always be posted at least one week in advance of the assignment due date giving you a minimum of one week to complete. Be aware that the university "recommends that you plan on 3-4 hours of course work per credit per week for Distance Ed classes. For example, a 3-credit class would require 9-12 hours of your time per week (BSU Distance Education)."

*Assignment Submissions* – all assignments must be submitted on Tuesday of each week by midnight Mountain Standard Time (MST). Due dates and assignment requirements will be clearly outlined in Moodle. Completed assignments will generally be sent as an attachment to an email (titled as "Your last Name Week \_\_\_\_"), uploaded in the "Upload Area" of Moodle, or may require postings in the Discussion Area. (Remember: Always save a copy of your assignment (hard drive and on another storage medium))

*Feedback/grades* – your assignments will be reviewed and evaluated by the instructor within one week after the assignment due date. Depending upon the assignment, you will receive a rubric with comments or receive points earned for assignment completion. Please check the gradebook area of Moodle by the Tuesday following the assignment due date. If you do not have an assigned grade, please contact the instructor.

*Late assignments* - late assignments may be reduced in grade by 10% for every day they are late.

*Special Circumstances* – please let the instructor know of any events/circumstances that may affect your ability to submit an assignment on time prior to the due date.

*Technical Difficulties* – on occasion, you may experience problems with accessing Moodle or class files located within Moodle, with your Internet service, and/or other computer related problems. Do make the instructor aware if a technical problem prevents you from completing coursework.

BSU Help Desk (Broncomail) -

[http://helpdesk.boisestate.edu/students/broncomail/getting\\_started.shtml](http://helpdesk.boisestate.edu/students/broncomail/getting_started.shtml)

Moodle Assistance – Moodle@boisestate.edu

*Academic Honesty* – all students are required to abide by Boise State University's Student Code of Conduct on academic dishonesty <http://registrar.boisestate.edu/Catalogs/02-03UndergradCatalog/Chapter2.pdf>. Assignments completed must be your original work and cannot be used in other courses in the Edtech program.

*Reasonable Accommodations* - Any student who feels s/he may need accommodations based on the impact of a disability should contact me privately to discuss your specific needs. You will also need to contact the Disability Resource Center at 208-426-1583 located in the Administration Building, room 114 to meet with a specialist and coordinate reasonable accommodations for any documented disability. For more information on the BSU Disability Resource Center (DRC) see the web site at <http://drc.boisestate.edu/>.

## Grading Policy

Final Grade	Grade Scale
Weekly assignments – 25%	94 – 100% = A
Discussions – 25%	90 – 93% = A -
Final Project – 50%	87 – 89% = B +
	84 – 86% = B
	80 – 83% = B -
	77 – 79% = C +
	74 – 76% = C
	70 – 73% = C -
	67 – 69% = D +
	64 – 66% = D
	60 – 63% = D -
	59 – Below = F