EDT 503: Instructional Media Design

Instructor: Dr. Robert Atkinson
Email: robert.atkinson@asu.edu
Office: 125 Payne Education Hall
Office Phone: (480) 965-1832
Office Hours: W 10:00 am - 12:00 pm or by appointment
Semester: Fall, 2007
Location: Online

Catalog Description

Three hours lecture. Uses media selection, design, and production principles to prepare design specifications for solutions to instructional messages and products.

Course Description

Students analyze instructional problems and audiences in order to design effective instructional media. The research base for the course exists in learning theory, perception, instructional design, and graphic design. Students will learn to specify requirements, select, design, and evaluate instructional media. The course focuses on traditional media as well as computer-based media. This is not a production course or software application course; however students will design and produce instructional media products using basic software programs (e.g., Microsoft Office).

Course Objectives

1. Discuss the importance of carefully designed media for instructional and informational purposes
2. Review and analyze instructional and informational media (print, graphic, and e-learning materials) using the course evaluation checklist to document the analysis
3. Participate in peer review of course projects, provide insightful comments that reflect principles and theories being discussed in class
4. Document audience analyses for instructional problems
5. Prepare design specifications for instructional and informational applications for print- and computer-based media
6. Apply theory and principles of learning, instructional design, and perception to the design of instructional media products

Topics to be Covered

2. Formatting Text and Diagrams
3. Visual Design Model
4. Graphics and Learning Processes
5. Designing Graphics to Support Transfer and Motivate Learners
7. How to Visualize Processes and Principles with Graphics (Job Aid Design)
8. How to Plan and Communicate with Visuals
10. E-Learning and Screen Design
11. Applying the Contiguity, Modality, and Redundancy Principles to E-Learning
12. Applying the Coherence and Personalization Principles to E-Learning
13. Worked-Examples and Learner Control in E-Learning
14. Applying the E-Learning Guidelines
Methods of Instruction

1. Traditional lectures
2. Class discussions
3. Collaborative activities
4. Independent activities

Assessment of Concepts and Skills/Evaluation of Student Progress

1. **Class Discussion Blog.** All students will be asked to regularly post to a blog that has been set up for this course—a kind of distributed publishing system where we can all post comments in a central place. The blog is intended to be an information funnel for our activities during this course. Members of the class will use this site to share resources and collectively explore issues over the course of the semester. All students will be expected to make a small number of contributions to the blog after each class. Specifically, every student will be expected to contribute four postings per class or a total of 52 postings over the course of the class. Of the four weekly postings, two must be original thoughts while the other two postings can be responses to previously posted comments. Each posting should be a minimum of three sentences long and must be posted before the next class meeting. These postings might be descriptions and pointers to relevant resources online, summaries and critiques of relevant articles, or personal musings related to the themes of the course. The URL for the course blog is: http://asuedt503fall2007.blogspot.com/. To enroll in the blog, please follow the directions in the Blogger Invite email sent to you during Week 1 of class. To post to the course blog, login at [www.blogger.com](http://www.blogger.com) and click on link to the “EDT503: Instructional Media Design ” blog displayed on your dashboard.

2. **Integrated Worked Examples Project.** This project will require you to create three integrated worked examples (from mathematics or the sciences) that minimize the split-attention effect. First, you will locate three conventional worked examples that require the learner to split their attention between multiple sources of information in order to mentally integrate those sources. For instance, conventional geometry worked examples typically contain a diagram with the associate statements located adjacent to the diagram. Second, you will redesign the example so that they do not foster the split-attention effect by using an integrated format. You will be asked to submit both the conventional and integrated examples along with a document that describes your re-design decisions. Note: A handout will be supplied in class that provides more details about this project.

3. **Integrated Instructions Project.** Similar to the Integrated Worked Examples Project, this project will require you to create a set of instructions that minimizes the split-attention effect. First, you will locate two sets of conventional instructions that require the learner to split their attention between multiple sources of information in order to mentally integrate those sources. Second, you will redesign the set of instructions so that they do not foster the split-attention effect by using an integrated format. You will be asked to submit both the conventional and integrated instructions along with a document that describes your re-design decisions. Note: A handout will be supplied in class that provides more details about this project.

4. **Job Aid Design Project.** Using a problem that you have discovered or created, write an audience description and design an appropriate job aid for that audience. You will be asked to provide (a) a written statement of problem, audience analysis, the type of job aid chosen, and rationale for all decisions made., (b) a draft example of job aid produced for the pilot test of the job aid, (c) three completed Pilot Test/Peer Review Checklist(s) – three, (d) a completed design evaluation checklist (self check, peer review, and instructor checklist), and (e) a final Job Aid after evaluation from class and instructor. Note: A handout will be supplied in class that provides more details about this project.

5. **Print Design Project.** This project will require you to design and print sample pages for printed instructional material (a book, workbook, study, guide, etc.) that entails multiple pages. You will be asked to write a description of the instructional problem being addressed, the audience, the purpose of the instructional material, and the rationale for the choices made about layout grid, fonts, graphic elements, contrast, repetition, alignment, and proximity. You will then design five sample pages (e.g., title page, table of contents, chapter/section title page, instructional page, worked example or practice problem page, index, glossary, chapter or section summary, chapter or section introduction, bibliography) according to principles discussed in the course. Note: A handout will be supplied in class that provides more details about this project.
6. **Screen Design Project.** This project will require you to revise an existing computer-delivered instructional product. Specifically, you will (a) find an educational web site, (b) evaluate the web site using the screen design checklist, (c) describe what’s wrong with the site, why it is wrong, and how you would fix it, (d) describe what is right about the site and why, (e) revise at least five pages from the site (note, your re-designed pages can either be computer- or paper-based), and (f) document your re-design decisions, and (g) submit your revised pages along with a report documenting the design problems you found and how you changed the screen design. *Note:* A handout will be supplied in class that provides more details about this project.

7. **E-Learning Project and Presentation.** This project will require you to design an educational game or simulation. You are not required to create a working game; rather, you will be required to document the design in accordance with accepted industry practice. That is, using an instructional problem of your own choosing, prepare a document outlining the design specifications for a computer-delivered educational game or simulation. You will also be required to present your e-learning project to the class at the end of the course. *Note:* A handout will be supplied in class that provides more details about this project.

8. **Peer Reviews.** As part of the course, you will be required to provide your peers with feedback on their project drafts. For each course project, you are asked to provide at least three peers with feedback (essentially, conduct formative evaluations) of their work using a rubric provided in class.

### Course Policies

1. **Grading Scale:** Course grades will be based on lab exercises, a basic project, an advance project, a presentation, and class participation. The maximum obtainable points are as follows:

<table>
<thead>
<tr>
<th>Activity</th>
<th>Point Contribution</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Class Discussion Blog</td>
<td>(13 weeks x 4 posts @ 1 pts each)</td>
<td>= 52</td>
</tr>
<tr>
<td>Integrated Worked Examples Project</td>
<td>(1 @ 35 pts each)</td>
<td>= 35</td>
</tr>
<tr>
<td>Integrated Instructions Project</td>
<td>(1 @ 35 pts each)</td>
<td>= 35</td>
</tr>
<tr>
<td>Job Aid Design Project</td>
<td>(1 @ 35 pts each)</td>
<td>= 35</td>
</tr>
<tr>
<td>Print Design Project</td>
<td>(1 @ 45 pts)</td>
<td>= 45</td>
</tr>
<tr>
<td>Screen Design Project</td>
<td>(1 @ 35 pts)</td>
<td>= 35</td>
</tr>
<tr>
<td>E-Learning Project and Presentation</td>
<td>(1 @ 45 pts)</td>
<td>= 45</td>
</tr>
<tr>
<td>Peer Reviews</td>
<td>(6 @ 3pts each)</td>
<td>= 18</td>
</tr>
<tr>
<td>Class Participation</td>
<td></td>
<td>= +/- 10</td>
</tr>
<tr>
<td><strong>Total Points Possible</strong></td>
<td></td>
<td>= 290-310</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Grade</th>
<th>%</th>
<th>Points Required</th>
</tr>
</thead>
<tbody>
<tr>
<td>A+</td>
<td>100-97</td>
<td>300-291</td>
</tr>
<tr>
<td>A</td>
<td>96-93</td>
<td>290-279</td>
</tr>
<tr>
<td>A-</td>
<td>92-90</td>
<td>278-270</td>
</tr>
<tr>
<td>B+</td>
<td>89-87</td>
<td>269-261</td>
</tr>
<tr>
<td>B</td>
<td>86-83</td>
<td>260-249</td>
</tr>
<tr>
<td>B-</td>
<td>82-80</td>
<td>248-240</td>
</tr>
<tr>
<td>C+</td>
<td>79-77</td>
<td>239-231</td>
</tr>
<tr>
<td>C</td>
<td>76-73</td>
<td>230-219</td>
</tr>
<tr>
<td>C-</td>
<td>72-70</td>
<td>218-210</td>
</tr>
<tr>
<td>D+</td>
<td>69-67</td>
<td>209-201</td>
</tr>
<tr>
<td>D</td>
<td>66-63</td>
<td>200-189</td>
</tr>
<tr>
<td>D-</td>
<td>62-60</td>
<td>188-180</td>
</tr>
<tr>
<td>E</td>
<td>&lt;59</td>
<td>&lt;179</td>
</tr>
</tbody>
</table>

2. **Participation:** In my courses, I feel it is the responsibility of each student to contribute to the learning process for all. Thus, meaningful participation is essential to the success of the class. The quantity and quality of participation may be evaluated.
3. **Syllabus**: The syllabus is intended as a general plan of study and may be adjusted (with advance notice) depending on needs. Additional readings and activities not presently listed may be added.

4. **Late Assignments**: All assignments are due on the dates listed in the syllabus (unless announced by instructor). Late assignments will be subject to a drop of at least one letter grade per day.

5. **Classroom Behavior**: Students are required to adhere to the behavior standards listed in the Arizona State University STA 104-01: Student Code of Conduct (http://www.asu.edu/aad/manuals/sta/sta104-01.html)

6. **Plagiarism**: Students are to do their own work and plagiarism will not be tolerated (see Student Code of Conduct). All quoted and paraphrased writing must be appropriately cited. All work must be for this course; duplicate work from another course is not acceptable. Plagiarism includes information lifted from web sites. Like printed material, the authors of this content are entitled to credit for their work. If material is taken directly from the web, it must be cited as a direct quotation. If material is paraphrased, it still must be cited. Software exists to assess the likelihood of plagiarism from the web and I reserve the right to use this software with any assignment. If you have questions about how to cite material from the web, please ask me.

7. **Instructor Responsibility**: I consider it a privilege to have each of you in my class. As your instructor, I will do whatever I can to help you learn and do well on the course assignments. However, please keep in mind that your grade in this class is earned by you, not given by the instructor. I will give you a number of opportunities to learn the material and demonstrate what you have learned.

8. **Special Accommodations**: I want to facilitate the learning of all students in the class. If you have a disability that may significantly interfere with your learning or believe that you need special assistance to successfully complete the requirements of the class, please contact me during the first week of class so that I can attempt to accommodate your learning needs. Also, if you are having problems in this course, for whatever reason, I invite you to make an appointment with me to discuss the matter. Be sure to make the appointment early in the semester so that we have enough time to remedy the problem.

**Course Texts**

1. **Required**:
   


2. **Optional**:


**Tentative Course Schedule**
Since the reading assignments form the foundation of the course, book chapters and/or articles need to be read prior to the day at which the topic is discussed in class. In other words, come to class prepared to discuss the assigned readings that correspond to the day’s discussion topic. The following schedule, however, is subject to change depending on the progress we are making toward the goal of a comprehensive introduction of the subject matter. Changes will be announced in class.

**Week 1:**  **Course Overview**
- Introduction and review of syllabus

**Week 2:**  **Cognitive Architecture, Cognitive Load Theory, and Four Graphic Design Basics**
- Read: Chapters 1 thru 3 of Sweller
- Assignment: Blog posting #1 due

**Week 3:**  **Formatting Text and Diagrams**
- Read: Chapters 4 thru 6 of Sweller
- Assignment: Blog posting #2 due

**Week 4:**  **Visual Design Model**
- Read: Chapters 1 thru 3 of Clark & Lyon
- Assignment: Integrated Worked Examples DRAFT due
- Assignment: Blog posting #3 due

**Week 5:**  **Graphics and Learning Processes**
- Read: Chapters 4 thru 7 of Clark & Lyon
- Assignment: Integrated Worked Examples FINAL due
- Assignment: Blog posting #4 due

**Week 6:**  **Designing Graphics to Support Transfer and Motivate Learners**
- Read: Chapters 8 thru 10 of Clark & Lyon
- Assignment: Integrated Instructions DRAFT due
- Assignment: Blog posting #5 due

**Week 7:**  **How to Visualize Procedures, Concepts, and Facts with Graphics (Job Aid Design)**
- Read: Chapters 11 thru 13 of Clark & Lyon
- Assignment: Integrated Instructions FINAL due
- Assignment: Assignment: Blog posting #6 due

**Week 8:**  **How to Visualize Processes and Principles with Graphics (Job Aid Design)**
- Read: Chapters 14 & 15 of Clark & Lyon
- Assignment: Job Aid DRAFT due
- Assignment: Blog posting #7 due
Week 9: How to Plan and Communicate with Visuals

- Read: Chapters 16 thru 18 of Clark & Lyon
- Assignment: Job Aid FINAL due
- Assignment: Blog posting #8 due

Week 10: Applying the Graphics for Learning Guidelines

- Read: Chapters 19 & 20 of Clark & Lyon
- Assignment: Print Design Project DRAFT due
- Assignment: Blog posting #9 due

Week 11: E-Learning and Screen Design

- Read: Chapters 1 thru 3 of Clark & Mayer
- Assignment: Print Design Project FINAL due
- Assignment: Blog posting #10 due

Week 12: Applying the Contiguity, Modality, and Redundancy Principles to E-Learning

- Read: Chapters 4 thru 6 of Clark & Mayer
- Assignment: Screen Design Project DRAFT due
- Assignment: Blog posting #11 due

Week 13: Applying the Coherence and Personalization Principles to E-Learning

- Read: Chapters 7 thru 9 of Clark & Mayer
- Assignment: Screen Design Project FINAL due
- Assignment: Blog posting #12 due

Week 14: Worked-Examples and Learner Control in E-Learning

- Read: Chapters 10 thru 13 of Clark & Mayer
- Assignment: E-Learning Project DRAFT due
- Assignment: Blog posting #13 due

Week 15: Summing Up

- Assignment: E-Learning Project FINAL due