
EDIT 752-004 (IMMERSION)
Design and Implementation of Technology-based Learning Environments

Instructor: Dr. Shahron Williams van Rooij
Class Dates: 01/20/2010 – 05/05/2010
Class Meeting Times: Wednesday, 12:30 – 03:10 PM
Class Meeting Location: Commerce I Room 100 (Computer Lab)

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REQUIRED TEXTS

- Jonassen, D.H., Tessmer, M., & Hannum, W.H. (1999). *Task analysis methods for instructional design*. Lawrence Erlbaum Associates. ISBN 0-8058-3086-3
- Colvin Clark, R. & Mayer, R.E. (2008). *E-Learning and the science of instruction, 2nd Edition*. Pfeiffer Publishing. ISBN 978-0-7879-8638-4

COURSE DESCRIPTION

Students design and produce multimedia/hypermedia applications based on current theory and research in instructional design and cognitive science. Examines user needs, information models, structure, and media selection and uses to inform design and production of final project.

STUDENT OUTCOMES

This course will enable the 2009-2010 Immersion students to:

- Apply the instructional design process to support the development of the LATIST web site and associated software applications (mobile apps, videos, etc.) for DAU.
- Actively engage in LATIST web site design and development in small group contexts
- Evaluate and critique real-world application of design and development processes through viewpoint presentations
- Conduct and document content/task analyses for the development of LATIST use-case based user requirements
- Create/refine storyboards and wireframes for LATIST prototype design/development
- Conduct and document usability testing of LATIST prototype
- Interact with client(s) and external developer(s) in LATIST web site design and development
- Contribute positively to overall project as well as individual team member professional growth and development

INSTRUCTIONAL APPROACH

As in fall 2009, each session of this course consists of a combination of presentations, discussions, reflections and lectures. Course activities and outcomes support the successful completion of the DAU Immersion project. The course will also utilize Blackboard CE6, accessible at <http://courses.gmu.edu> to supplement our classroom work. As in fall 2009, students will be offered the opportunity of stating how they would like the Bb site to be set up.

PROFESSIONAL STANDARDS

This course adheres to the instructional design competencies and standards as documented by the International Board of Standards for Training, Performance, and Instruction (IBSTPI) at http://www.ibstpi.org/Competencies/instruct_design_competencies.htm.

ASSIGNMENTS

There are **five (5)** graded assignments required for successful completion of this course. Three of these assignments are small group assignments, and two assignments are individual assignments. Assignments are to be uploaded to the Bb ASSIGNMENT DROPBOX on the dates indicated on the Course Schedule pages of this Syllabus. Due dates will also be marked on the Bb course CALENDAR. Grading Rubrics for these assignments will be posted to our Bb course site.

1. Viewpoint Presentation: Individual Assignment (10 points)

Each student will locate and read a peer-reviewed research article related to the topic in the assigned course readings. The student will prepare a 15-20 minute PowerPoint® presentation summarizing and evaluating that article based on the concepts and principles in the assigned course readings. The presentation should also include what article take-aways could be applied to the design and development of the LATIST web site.

2. Content/Task Analysis Report: Small Group Assignment (30 points)

Each of the three teams (teams assigned during the Immersion Spring 2010 Kick-Off meeting) will prepare a content/task analysis report (text and graphics) using one or more of the methods described in the course readings and course resources. DAU's ACQ 201A – an existing course to be revamped – and ACQ201B – a new course to be developed – are your frame of reference. As such, each team's content/task analysis report should reflect the following:

- **Team 1, Research and Resources, Body of Knowledge:** What tasks do DAU faculty and staff who are revamping a course need to do in this section of the LATIST site? What tasks must be done by those developing a new course?
- **Team 2, Decision component:** What tasks do DAU faculty and staff who are revamping a course need to do in this section of the LATIST site? What tasks must be done by those developing a new course?
- **Team 3, Tutorials and Emerging Technologies:** What tasks do DAU faculty and staff who are revamping a course need to do in this section of the LATIST site? What tasks must be done by those developing a new course?

Each content/task analysis report should describe and explain:

- Process(es) use for task selection/identification
- Knowledge/research sources used
- Taxonomies used for task classification
- Analytical method (e.g., job/procedural/skills method, cognitive method, instructional/guided learning) used
- Graphical representation(s) of your analysis

Each team will prepare a **minimum** of two (2) iterations:

- Draft iteration, which will be subject to peer reviews as described in assignment #5 below. Additional drafts may follow, depending on peer and instructor feedback. When do you stop creating drafts? When your team is satisfied that the iteration and meets the criteria identified in the Grading Rubric.
- Final report, for instructor grading

Two good examples of content/task analysis reports are located in the final Instructional Design Documents of the Win-Win Strategies Foundation (WWSF) Immersion Project (2004) and the Hoop Magic Immersion Project (2007), both of which are located at <http://immersion.gmu.edu/immsite/student/hmsa.htm>.

3. LATIST Storyboards and Wireframes: Small Group Assignment (25 points)

Each of the three teams will prepare a set of storyboards and wireframes for the three LATIST web site components using the processes and best practices described in the course readings and course resources. Each team is free to select the tool/medium of its choice (e.g., freeware text-based templates, PowerPoint, Illustrator, HTML, etc.) to create the storyboards and wireframes. Each team will prepare a **minimum** of two (2) iterations:

- Draft iteration, which will be subject to peer reviews as described in assignment #5 below. Additional drafts may follow, depending on peer and instructor feedback. When do you stop creating drafts? When your team is satisfied that the iteration and meets the criteria identified in the Grading Rubric.
- Final iteration, for instructor grading

The WWSF Immersion project (2004) contains an example of simple but well crafted wireframes. Other examples will be posted to our Bb course site.

4. Usability Testing Report: Small Group Assignment (20 points)

Each team will conduct usability testing of their respective LATIST prototypes using one or more of the methods and best practices described in the course readings and course resources. Each team will conduct a **minimum** of two (2) rounds of usability testing:

- Round I: Documented results will be subject to peer reviews as described in assignment #5 below.
- Round II: Documented results for instructor grading

See previous Immersion projects for examples of Usability Testing reports.

5. Peer Reviews: Individual Assignment (15 points)

Each student will provide timely, constructive feedback to members of teams other than his/her own for each of the following:

- Content/task analysis report
- Storyboard/wireframe set
- Usability testing report

Feedback should be posted to the designated areas in the ASSIGNMENT DROPBOX on the due dates indicated on the Course Schedule page of this syllabus and in the Bb Course Calendar. There is no minimum/maximum requirement for length, number of words, etc.

Total Possible Points: 100

ASSESSMENT

General Information

The evaluation of student performance is related to the student's demonstration of the course outcomes. All work is evaluated on its relevance to the specific assignment, comprehensiveness of information presented, specificity of application, clarity of communication, and the analytical skills utilized, as documented in the respective GRADING RUBRICS.

Grading scale

Decimal percentage values $\geq .5$ will be rounded up (e.g., 92.5% will be rounded up to 93%); decimal percentage values $< .5$ will be rounded down (e.g., 92.4% will be rounded down to 92%). **Late assignments will be penalized 10% for each class session past the due date.**

A=90-100; B=80-89; C=70-79; D=60-69; F=<60

Great care is given to evaluating student performance based on the requirements documented in the grading rubrics for each assignment. As such, grades are not negotiable. In the event that, following discussions with the instructor, a student feels that his/her grade is unfair, the grade may be appealed using the university's appeal process described at <http://www.gmu.edu/catalog/apolicies/index.html#Anchor56>.

CLASS MAKE-UP POLICY

If George Mason University is closed due to inclement weather on the day of class, or for any other reason, the class will be conducted via our Blackboard course site. In the event the university infrastructure is taken offline during such a closure, material missed will be incorporated into subsequent class sessions.

COURSE SCHEDULE AND TOPICS

DATE	TOPIC	ASSIGNMENT
<p>Week 1 Jan. 20</p>	<p><u>GETTING STARTED/OVERVIEW</u></p> <ul style="list-style-type: none"> • Introductions, review syllabus • Intro to Blackboard (Bb) course site • <i>Viewpoint Presentations</i> Sign-up • Lecture: <i>Task Analysis, Content Analysis, Oh My!</i> 	<ul style="list-style-type: none"> • Jonassen et al, Part 1, Chapters 1-3 • View the first three Task Analysis videos • Begin brainstorming content/task analysis approaches
<p>Week 2 Jan. 27</p>	<p><u>CONTENT/TASK ANALYSIS: INSTRUCTIONAL/GUIDED LEARNING ANALYSIS</u></p> <ul style="list-style-type: none"> • Viewpoint Presentation #1 • Discuss Jonassen (1-3) • Lecture: <i>Guided Learning and User Requirements Development</i> 	<ul style="list-style-type: none"> • Jonassen et al, Part III, Chapters 8-10 • Begin outlining content/task analyses
<p>Week 3 Feb. 3</p>	<p><u>CONTENT/TASK ANALYSIS: METHODS, DISPLAYS</u></p> <ul style="list-style-type: none"> • Viewpoint Presentation #2 • Discuss Jonassen (8-10) • Lecture: <i>What You See is What We Got</i> 	<ul style="list-style-type: none"> • Jonassen et al, Part V, Chapter 19; Part VI, Chapters 20-23 • Complete first draft of content/task analysis report
<p>Week 4 Feb. 10</p>	<p><u>CONTENT/TASK ANALYSIS: PULLING IT ALL TOGETHER</u></p> <ul style="list-style-type: none"> • Viewpoint Presentation #3 • Walk-through of each team’s first draft of content/task analysis reports 	<ul style="list-style-type: none"> • Post content/task analysis draft report peer review comments to Bb throughout the week
<p>Week 5 Feb. 17</p>	<p><u>CONTENT/TASK ANALYSIS: PROCESS DEBRIEF</u></p> <ul style="list-style-type: none"> • Submit Content/Task Analysis report via Bb ASSIGNMENT DROPBOX • Discuss/debrief on process/experiences for content/task analysis report • Lecture: <i>From Analysis to Design: Use Cases and Scenarios</i> 	<ul style="list-style-type: none"> • Clark & Mayer, Chapters 3-5 • Explore the free online tutorial Specifying Functional Requirements with Use Cases • Begin drafting use case requirements (each team)
<p>Week 6 Feb. 24</p>	<p><u>PROTOTYPE DESIGN & DEVELOPMENT: DOCUMENTING REQUIREMENTS</u></p> <ul style="list-style-type: none"> • Viewpoint Presentation #4 • Discuss Clark & Mayer (3-5) • Discuss CRaG Systems tutorial • Discuss/walk-through first iteration of requirements 	<ul style="list-style-type: none"> • Clark & Mayer, Chapters 6,7,9 • Continue working on use case requirements (each team) for review by Immersion faculty

DATE	TOPIC	ASSIGNMENT
<p>Week 7 Mar. 3</p>	<p><u>PROTOTYPE DESIGN & DEVELOPMENT: STORYBOARDS, WIREFRAMES</u></p> <ul style="list-style-type: none"> • Viewpoint Presentation #5 • Discuss/walk-through use case requirements • Discuss Clark & Mayer (6,7,9) • Lecture: <i>Defining Web Design</i> 	<ul style="list-style-type: none"> • Clark & Mayer, Chapter 13 • Explore some of the website storyboarding videos • Begin drafting storyboards, wireframes (each team)
<p>Week 8 Mar. 10</p>	<p>SPRING BREAK – NO CLASSES</p>	
<p>Week 9 Mar. 17</p>	<p><u>PROTOTYPE DESIGN & DEVELOPMENT: CONTENT INVENTORIES & OTHER DESIGN TECHNIQUES</u></p> <ul style="list-style-type: none"> • Viewpoint Presentation #6 • Discuss Clark & Mayer (13) • Discuss storyboarding videos • Lecture: <i>Refining Web Design</i> 	<ul style="list-style-type: none"> • Complete first draft of storyboards/wireframes (each team)
<p>Week 10 Mar. 24</p>	<p><u>PROTOTYPE DESIGN & DEVELOPMENT: CONTENT INVENTORIES</u></p> <ul style="list-style-type: none"> • Viewpoint Presentations: #7 • Walk-through of each team’s storyboards/wireframes 	<ul style="list-style-type: none"> • Post storyboard/wireframe peer review comments on Bb throughout the week
<p>Week 11 Mar. 31</p>	<p><u>STORYBOARD/WIREFRAME PROCESS DEBRIEF</u></p> <ul style="list-style-type: none"> • Submit final storyboards/wireframes via Bb ASSIGNMENT DROPBOX • Discuss/debrief on process/experiences for developing storyboards/wireframes • Lecture: <i>Evaluation: Setting Measurable Usability Goals</i> 	<ul style="list-style-type: none"> • Clark & Mayer, Chapter 16 • View the video How and When Prototyping Practices Affect Design Performance • Begin drafting usability test plan
<p>Week 12 Apr. 7</p>	<p><u>USABILITY TESTING: INTRODUCTION</u></p> <ul style="list-style-type: none"> • Viewpoint Presentation #8 • Discuss Clark & Mayer (16) • Discuss prototyping video • Walk-through draft usability test plan • Lecture: <i>Quick and Clean Usability Testing</i> 	<ul style="list-style-type: none"> • Begin conducting usability testing round 1
<p>Week 13 Apr. 14</p>	<p><u>USABILITY TESTING: GET ‘ER DONE</u></p> <ul style="list-style-type: none"> • Viewpoint Presentation #9 • Discuss/walk-through round 1 usability test results 	<ul style="list-style-type: none"> • Post usability testing round 1 peer review comments throughout the week • Adjust testing for round 2

DATE	TOPIC	ASSIGNMENT
Week 14 Apr. 21	<u>TEST & REFINE THE PROTOTYPE</u> <ul style="list-style-type: none"> • Outlining the usability test report • Preparing for IDD consolidation 	<ul style="list-style-type: none"> • Conduct round 2 of usability testing
Week 15 Apr. 28	<u>USABILITY TESTING PROCESS DE-BRIEF</u> <ul style="list-style-type: none"> • Submit final Usability Testing report via Bb ASSIGNMENT DROPBOX • Discuss/debrief on process/experiences for conducting usability testing • Work session: IDD 	
Week 16 May 5	<u>COURSE WRAP-UP</u> <ul style="list-style-type: none"> • Q & A time • Final presentation prep • Course evaluations and closing remarks 	

COLLEGE OF EDUCATION AND HUMAN DEVELOPMENT STATEMENT OF EXPECTATIONS:

All students must abide by the following:

- Students are expected to exhibit professional behavior and dispositions. See gse.gmu.edu for a listing of these dispositions.
- Students must follow the guidelines of the University Honor Code. See http://www.gmu.edu/catalog/apolicies/#TOC_H12 for the full honor code.
- Students must agree to abide by the university policy for Responsible Use of Computing. See <http://mail.gmu.edu> and click on Responsible Use of Computing at the bottom of the screen.
- Students with disabilities who seek accommodations in a course must be registered with the GMU Disability Resource Center (DRC) and inform the instructor, in writing, at the beginning of the semester. See www.gmu.edu/student/drc or call 703-993-2474 to access the DRC.

HONOR CODE

To promote a stronger sense of mutual responsibility, respect, trust, and fairness among all members of George Mason University and with the desire for greater academic and personal achievement, we, the members of George Mason University, have set for the following code of honor. Any individual who is caught in the act of cheating, attempting to cheat, plagiarizing, or stealing will be brought forth before a council of their peers. In the event that the individual is found guilty, he or she will be punished accordingly. For further information, please refer to the University Catalog or web site at www.gmu.edu.

This syllabus is subject to change based on the needs of the class. The Americans with Disabilities Act (ADA) prohibits discrimination against individuals with disabilities in the series, programs, or activities of all State and local Governments. Under ADA a disability is defined as a physical or mental impairment that substantially limits a major life activity such as: learning, working, walking, speaking, hearing, breathing, and/or taking care of oneself. If a student has a disability and needs course adaptations or accommodations because of that disability, it must be established with the faculty, in writing, at the beginning of the semester, so arrangements can be made. Please call the Disability Resource Center for required documentation (703-993-2474).