

**PSY 734: Multimodal Display Designs Seminar**  
**Multimodal Display Design - 16681 - PSYC 734 - 001**

**Spring 2012**

**Thursdays, 4:30-7:10 pm**

**Arch Lab Conference Room**

(David King Jr. Hall 2073A)

**Instructor:** Carryl L. Baldwin, Ph.D.      **Office:** David King Hall 2062

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**Blackboard Site:** <http://gmublackboard.com/webct/>

**Office hours:** Tuesdays and Thursdays 2:30-3:30 pm and by appointment (you are encouraged to email me or talk to me after class about meeting at other times)

**Main text:** Ho, C., and Spence, C. (2008). The multisensory driver: Implications for ergonomic care interface design. Burlington, VT: Aldershot.

**Additional Required Readings:** See Readings List

**Course Description:**

This seminar will focus on the theoretical and empirical work pertaining to the most effective use of Unimodal, Bimodal and Multimodal displays to facilitate operator comprehension and illicit appropriate operator response. Sensory and perceptual capabilities of each of five major sensory systems, the brain mechanisms associated with each and their implications for display design will be examined. Multisensory attention, and the implications of multisensory display combinations for promoting event perception, response selection and response execution will also be examined. The focus will be on the display aspect of the user interface, but input devices and controls (speech versus manual inputs) will also be discussed. These topics will be examined in a number of operational environments including but not limited to the Driving, Aviation, Medicine, Virtual Reality and Education and for different purposes (e.g., redundant information, supplementary information, for sensory impaired populations).

**Grading System:**

Article Presentation & Discussion Lead	1 @ 25	= 25
Group Application Project # 1	1 @ 50	= 50
Group Application Project # 2	1 @ 50	= 50
Midterm Exam	1 @ 50	= 50
Final Project Presentation	1 @ 25	= 25
Final Major Project Proposal/Paper	1 @ 100	= 100
Final Comprehensive Exam	1 @ 100	= 100
Participation & Discussion		<u>= 50</u>
	<b>TOTAL POINTS</b>	<b>450 points</b>

**Grading Scale:**

Superior/Excellent: 97 -100% = A+      93-96% = A    90-93% = A-  
Above Average:                87 - 89% = B+      83-86% = B    80-82% = B-  
Average:                        77 - 79% = C+      73-76% = C-    70-72% = C-  
Failing: 59 and below

### **Policies, Procedures, Philosophy & Expectations**

- 1) First and foremost, it is my hope that together we can create a learning atmosphere conducive to intellectual discovery and growth. We all have something to bring to the discussions and with mutual respect for each other we can all learn.
- 2) Remember that class time is class time, NOT time to catch up on email, social media, assignments, etc.. If you are checking your email, or other non-course related activities during class time (i.e., including lectures, discussions, peer presentations, etc..) expect to receive a low participation score and potentially be asked to leave the class.
- 3) Critically read all assigned material prior to the day it is to be discussed. Come to class ready to participate in discussions of the material, exercises to strengthen learning and with thoughtful questions and insights for further learning. Refer to the Readings calendar for a list of dates for articles/chapters to be covered.
- 4) If you are a student with a disability and you need academic accommodations, please see me and contact the Office of Disability Services (ODS) at 993-2474. All academic accommodations must be arranged through the ODS.
- 5) Article discussions: You will be in charge of discussing critical aspects of one of the assigned articles and leading the class in discussion of the topic involved. (Critical aspects for research investigations include: rationale for the study, methodology, results, discussion, and implications & limitations. Critical aspects for review papers and chapters include such items as: nature of the debate or issue, supporting evidence for diverse views, design of a debate resolving investigation, gaps in the literature, etc.) You should plan to present your portion of the reading for 15-20 minutes – using power point slides, handouts, discussion questions, demonstrations, etc... and then to answer questions and lead a discussion or other exercise.
- 6) There are two Group Application Assignments. One will be due before midterm and one after. Refer to the Readings and Assignments List which will be provided to you on the first day of class for the specific dates. Note that you will be given some time in class to work on these assignments but you are expected to arrange for additional work times with your group members outside of normally scheduled class hours.
- 7) Final Major Project Proposal or Literature Review paper. Complete either: a) an independent literature review on an approved topic related to multisensory displays, or (primarily if you have previously researched a particular related topic in depth) you may choose; b) a Research Proposal with a brief but well-formed literature review and introduction to the rationale for the study and a detailed design, & methods section. Papers should be 10-15 pages in length, APA style, include at least 15 references (10 should be from journal articles published 2000 or later, unless your topic is of a historical nature). Present a 15-20 minute summary of this literature review in class.