

**Indiana University
Department of Telecommunications**

**Syllabus
T571 - Applied Cognitive and Emotional Psychology
Section #4348
Spring, 2003**

Lectures: TTh 11:15 - 12:30 p.m. Radio-Television Center 169
Instructor: Dr. Julia Fox
Office Hours: Tuesdays and Thursdays 1:30-2:30 p.m.
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Readings:

There is one required text for this course:

Reeves, B., & Nass, C. 1996. *The media equation: How people treat computers, television, and new media like real people and places.* Cambridge University Press.

In addition, there are a number of assigned readings from various sources relating to course topics on electronic reserve. Some full-text articles are also available on line, as noted. A printed course packet may be made available on reserve and/or for students to purchase, if they prefer.

Course Description: This course introduces students to basic theories in cognitive and emotional psychology and focuses on how these theories could be applied to the design of immersive mediated environments.

Academic Integrity: Students are expected to adhere to the highest ethical standards in all their course work and research, and to be familiar with the contents of the document entitled *Integrity in Graduate Study*. Copies may be obtained from departmental offices or from the office of the University Graduate School.

Attendance: Students are responsible for all material presented in class. Students must attend class and take part in discussions in order to receive credit for that day's reading commentaries.

Assignments:

Reading Commentaries: Students are expected to complete the assigned readings before class and to submit comments about the readings on a group email list by 9 a.m. on the day that the readings are assigned. Comments should suggest ways in which the assigned reading(s) could be applied to students' own interests in immersive mediated environments. Students must attend class and take part in discussions in order to receive credit for the reading commentaries. Students are required to submit 13 reading commentaries. Students will receive credit but no grade for the reading commentaries. Each commentary is worth one point. Students can receive

credit for only one commentary per class when readings are assigned. Extra credit of one point each will be granted for up to 5 additional reading commentaries beyond the 13 required.

Research study: Students will conduct a research project related to the course topic. Students are expected to identify and define a research problem or question to investigate, review relevant literature on the topic, propose hypotheses, design a research study to test those hypotheses, develop stimulus material, and collect and analyze data. The final research project report will include a literature review, hypotheses, descriptions of the study methods and results, and a discussion section. The discussion section should address the significance of the study findings, any project limitations, and suggestions for future research. Detailed assignment guidelines will be distributed in class. These projects can be done alone or in groups. It is recommended that students participate in a group, in order to take advantage of each other's strengths in the various aspects of research (e.g. study design, stimulus development, data analysis, etc.). **The research proposal** (definition of research problem/question, literature review, hypotheses, and study design) **will be due April 3. The final research projects are due at the Final Meeting: 2:45 – 4:45 p.m. Thursday, May 8, 2003.**

Informational presentations: During the final week of class, for credit but no grade, students will make a brief presentation to the class about their research projects. The presentation will be worth two points.

Exams: There will be two exams. There will be an in-class review session before each exam.

Grading Policy: The final grade for the course will be determined as follows:

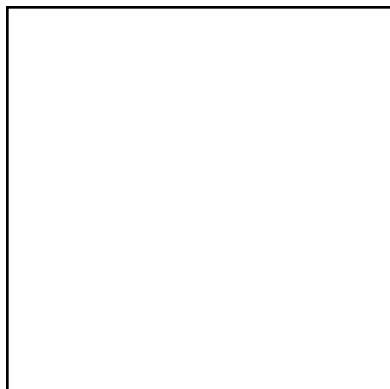
<u>Assignment</u>	<u>Percent of Grade</u>
Exam #1	25%
Exam #2	25%
Research proposal	10%
Research project	25%
Research presentation	2%
Reading commentaries (1% each)	13%
Total	100%

A final total percent below 60 is considered failing, 60-62% is D-, 63-66% is D, 67-69% is D+, 70-72% is C-, 73-76% is C, 77-79% is C+, 80-82% is B-, 83-86% is B, 87-89% is B+, 90-92% is A-, 93-96% is A, and 97% and above is A+.

Extra Credit: Students may earn up to five extra credit points for each additional day's reading commentaries beyond the 13 commentaries that are required.

Date	Topic	Reading(s)
1/14	Course introduction	T571 syllabus; Media = pp. ix-x
1/16	Why should we apply psychological theory to media design?	Media Equation ch. 1, 23
1/21	What is an immersive mediated environment?	Gerrig p.3; Biocca & Levy pp. 132-136; Turkle pp. 200-203, 240-243, 262-265, 268-269; Stromberg; Steur; Mirapaul
1/23	Cognitive Psychology	Holyoak; Cosmides & Tooby
1/28	Perception	Goodale; Nakayama; Palmer; Peterson; Cavanagh
1/30	Attention	Duncan; Posner & Fernandez-Duque; Eysenck pp. 57-60, 66
2/4	Memory	Baddeley, 1990 ch. 2; Baddeley, 1999; Schacter; Tulving; Squire; McGaugh; Clark
2/6	Limited Capacity Theory	Lang, 2000
2/11	Defining Emotion	Dillard & Wilson, 1993; Izard; Plutchik (1985); Apter; Cacioppo & Gardner
2/13	Measuring Cognition and Emotion: Psychophysiology and self-report	Cacioppo, Tassinari, & Berntson; Bolls, Lang, & Potter; Plutchik (1989)
2/18	Social and Emotional Effects on Cognition	Lang, Dhillon, & Dong, 1995; Johnson & Sherman (pp. 482-497, 514-526); Media Equation ch. 9-11
2/20	Review for exam #1	none
2/25	Exam #1	none
2/27	Production Elements that Affect Cognitions and Emotions: Color	Smith pp. 312-313; Zettl, pp. 57-58, 64-69; Hemphill; Detenber, Simons, & Reiss, 2000
3/4	Production Elements: Sounds	Zettl pp. 320-321; Bradley & Lang; Ellis & Simons; Potter et al.
3/6	Production Elements: Fidelity & Synchrony	Zettl pp. 103-104; Media = pp. 203-218
3/11	Production Elements: Screen and Image Size	Zettl, p. 83; Reeves, Lang, Kim, & Tatar, 1999; Preston; Media = pp. 193-201, 207-208
3/13	Production Elements: Camera Angle/Framing	Zettl pp. 118, 122-123, 125, 169, 172-175, 188-195, 200-202; Meyers-Levy & Peracchio, 1992; Orton, Reeves, Leshner, &

		Nass, 1994; Hamby et al.
3/25	Production Elements: Scene Transitions/Pacing	Zettl pp. 256-261; Lang, 2000 (again); Lang, Potter, & Bolls; Lang, Schwartz, & Snyder; Lang, Schwartz, Chung, & Lee; Media= pp. 227-239
3/27	Production Elements: Motion	Zettl p. 253; Detenber, Simons, & Bennett; Media = pp. 219-226
4/1	Production Elements: Animation	Zettl p. 115; Lang, Borse, Wise, & David; Fox et al.; Sundar et al.; Heo & Sundar; Heo et al.
4/3	Social, cultural, gender, ethnic differences in message processing and effects Research proposals due	Borovsky et al.; Chentsova & Tsai; Scheffers et al.; Bennett; Lethbridge et al.
4/8	Imagery	Bolls; Bolls & Clark; McTeague, Bradley, & Lang; Miller, Patrick, & Levenston
4/10	Interactivity	Vorderer, Knobloch, & Schramm; Bucy; Sundar et al.; Sundar, Brown, & Kalyanaraman; Mahood, Lalyanaraman, & Sundar
4/15	Navigation	Eveland & Dunwoody; Cutmore, Hine, Maberly, Langford, & Hawgood; Norman pp. 177-186
4/17	Para-social interactions with computers	Media = ch. 2-8, 13-16
4/22	Review for Exam #2	none
4/24	Exam #2	none



In-class research project presentations (informational only) during free week, 4/29 and 5/1.

Research Projects due Thursday, May 8, 2:45 – 4:45 p.m.

Readings

- Apter, M. (1994). Reversal theory and the structure of emotional experience. In C. Spielberger, I. Sarason, Z. Kulcsar, & G. Van Heck (Eds.), *Stress and emotion: Anxiety, anger, and curiosity* (pp. 17-30). New York: Hemisphere Publishing Corporation.
- Baddeley, A. (1990). *Human memory: Theory and practice*. Boston: Allyn and Bacon.
- Baddeley, A. (1999). Memory. In R. Wilson & F. Keil (Eds.), *The MIT encyclopedia of the cognitive sciences* (pp. 514-517). Cambridge, MA: MIT Press.
- Bennett, C. (2001). Affect and emotion: Eliciting compassionate response via facial affect in visual images. Paper presented at the annual convention of the Association for Education in Journalism and Mass Communication, Washington, DC.
- Biocca, F., & Levy, M. (1995). Communication applications of virtual reality. In F. Biocca & M. Levy (Eds.), *Communication in the age of virtual reality* (pp. 127-158). Hillsdale, NJ: Lawrence Erlbaum Associates, Publishers.
- Bolls, P. (2002). I can hear you, but can I see you? The use of visual cognition during exposure to high-imagery radio advertisements. *Communication Research*, 29(5), 537-563.
- Bolls, P., & Clark, K. (2002). Fear factor: The effect of imagery in high-fear radio public service announcements. Research presented at the 42nd annual meeting of the Society for Psychophysiological Research, Washington, DC.
- Bolls, P., Lang, A., & Potter, R. (2001). The effects of message valence and listener arousal on attention, memory, and facial muscular responses to radio advertisements. *Communication Research*, 28(5), 627-651. Full-text available on line.
- Borovsky, A., Bradley, M., Thornhill, D., Ohman, A., & Lang, P. (2002). Sneaking a peek: Do eye movements reveal emotional interest? Research presented at the 42nd annual meeting of the Society for Psychophysiological Research, Washington, DC.
- Bradley, M., & Lang, P. (2000). Affective reactions to acoustic stimuli. *Psychophysiology*, 37(2), 204-215. Full text available on line.
- Bucy, E. (in press). The interactivity paradox: Closer to the news but confused. In E. Bucy and J. Newhagen (Eds.) *Media access: Social and psychological dimensions of new technology use*. Lawrence Erlbaum Associates.
- Cacioppo, J., & Gardner, W. (1999). Emotion. *Annual Review of Psychology*, 50, 191-214.

- Cacioppo, J., Tassinary, L., & Berntson, G. (2000). Psychophysiological science. In J. Cacioppo, L. Tassinary, & Berntson, G. (Eds.) *Handbook of Psychophysiology*, 2nd ed. (pp. 3-23).
- Cavanagh, P. (1999). Top-down processing in vision. In R. Wilson & F. Keil (Eds.), *The MIT encyclopedia of the cognitive sciences* (pp. 844-845). Cambridge, MA: MIT Press.
- Chentsova-Dutton, Y., & Tsai, J. (2002). Gender differences in emotional responding among European Americans and Asian Americans. Research presented at the 42nd annual meeting of the Society for Psychophysiological Research, Washington, DC.
- Clark, S. (1999). Recalling to recognize and recognizing recall. In C. Izawa (Ed.) *On human memory: Evolution, progress, and reflections on the 30th anniversary of the Atkinson-Shiffrin model* (pp. 215-243). Mahwah, NJ: Lawrence Erlbaum Associates.
- Cosmides, L., & Tooby, J. (1999). Evolutionary psychology. In R. Wilson & F. Keil (Eds.), *The MIT encyclopedia of the cognitive sciences* (pp. 295-297). Cambridge, MA: MIT Press.
- Cutmore, T., Hine, T., Maberly, K., Langford, N., & Hawgood, G. (2000). Cognitive and gender factors influencing navigation in a virtual environment. *International Journal of Human-Computer Studies*, 53, 223-249. Full text available on line.
- Detenber, B., Simons, R., & Bennett, G. (1998). Roll 'em: The effects of picture motion on emotional responses. *Journal of Broadcasting and Electronic Media*, 42, 113-127. Full text available on line.
- Detenber, B., Simons, R., & Reiss, J. (2000). The emotional significance of color in television presentations. *Media Psychology*, 2(4), 331-355. Full text available on line.
- Dillard, J., & Wilson, B. (1993). Communication and affect: Thoughts, feelings, and issues for the future. *Communication Research*, 20(5), 637-646. Full text available on line.
- Duncan, J. (1999). Attention. In R. Wilson & F. Keil (Eds.), *The MIT encyclopedia of the cognitive sciences* (pp. 39-41). Cambridge, MA: MIT Press.
- Ellis, R., & Simons, R. (2002). The effects of sound on emotion during picture viewing. Research presented at the 42nd annual meeting of the Society for Psychophysiological Research, Washington, DC.
- Eveland, W., & Dunwoody, S. (2000). Examining information processing on the World Wide Web using think aloud protocols. *Media Psychology*, 2, 219-244. Full text available on line.
- Eysenck, M. (1993). *Principles of Cognitive Psychology*. Mahwah, NJ: Lawrence Erlbaum Associates Inc., Publishers.

- Fox, J., Lang, A., Chung, Y., Lee, S., Schwartz, N., & Potter, D. (under review). Picture this: Effects of graphics on the

- processing of television news. Manuscript submitted to the *Journal of Broadcasting and Electronic Media*.
- Gerrig, R. (1993). *Experiencing narrative worlds: On the psychological activities of reading*. New Haven: Yale University Press.
- Goodale, M. (1999). Visual processing streams. In R. Wilson & F. Keil (Eds.), *The MIT encyclopedia of the cognitive sciences* (pp. 873-874). Cambridge, MA: MIT Press.
- Hamby, S., Bradley, M., Junghoefer, M., & Lang, P. (2002). The attentive brain: Emotion and complexity in picture viewing. Research presented at the 42nd annual meeting of the Society for Psychophysiological Research, Washington, DC.
- Heo, N., & Sundar, S. (2001). Memory for web advertisements: Exploring effects of animation, position, and product involvement. Paper presented to the Mass Communication Division at the 51st annual conference of the International Communication Association in Washington, DC.
- Heo, N., Sundar, S., & Chaturvedi, S. (2001). Wait! Why is it not moving? Attractive and distractive ocular responses to web ads. Paper presented to the Advertising Division at the 84th annual conference of the Association for Education in Journalism and Mass Communication, Washington, DC.
- Hemphill, M. (1996). A note on adults' color-emotion associations. *The Journal of Genetic Psychology*, 157(3), 275-280.
- Holyoak, K. (1999). Psychology. In R. Wilson & F. Keil (Eds.), *The MIT encyclopedia of the cognitive sciences* (pp. xxxix-xlix). Cambridge, MA: MIT Press.
- Izard, C. (1993). Four systems for emotion activation: cognitive and noncognitive processes. *Psychological Review*, 100(1), 68-90.
- Johnson, M., & Sherman, S. (1990). Constructing and reconstructing the past and the future in the present. In E. Higgins & R. Sorrentino (Eds.), *Handbook of motivation and cognition vol. 2* (pp. 482-526).
- Lang, A. (2000). The limited capacity model of mediated message processing. *Journal of Communication*, 50(1), 46-70. Full text available on line.
- Lang, A., Borse, J., Wise, K., & David, P. (2002). Captured by the World Wide Web: Orienting to structural and content features of computer presented information. *Communication Research*, 29(3), 215-245.
- Lang, Dhillon, & Dong. (1995). The effects of emotional arousal and valence on television viewers' cognitive capacity and memory. *Journal of Broadcasting & Electronic Media*, 39, 313-327. Full-text available on line.

- Lang, A., Potter, R., & Bolls, P. (1999). Something for nothing: Is visual encoding automatic? *Media Psychology*, 1, 145-163. Full text available on line.
- Lang, A., Schwartz, N., Chung, Y., & Lee, S. (under review). Processing substance abuse messages: Production pacing, arousing content, and age. Manuscript revised and resubmitted

- to the *Journal of Broadcasting and Electronic Media*.
- Lang, A., Schwartz, N., & Snyder, J. (1999). Slow down, you're moving too fast: pacing, arousing content, and middle-age. Paper presented to the Theory and Methodology Division at the annual conference of the Association for Education in Journalism and Mass Communication, New Orleans, LA.
- Lethbridge, R., Allen, N., & Simmons, J. (2002). All things unpleasant are not equal: Startle reflex modulation while processing socially and physically aversive stimuli. Research presented at the 42nd annual meeting of the Society for Psychophysiological Research, Washington, DC.
- Mahood, C., Kalyanaraman, S., & Sundar, S. (2000). The effects of erotica and dehumanizing pornography in an online interactive environment. Paper presented to the Communication Theory and Methodology Division at the 83rd annual convention of the Association for Education in Journalism and Mass Communication, Phoenix, AZ.
- McGaugh, J. (1999). Memory storage, modulation of. In R. Wilson & F. Keil (Eds.), *The MIT encyclopedia of the cognitive sciences* (pp. 522-524). Cambridge, MA: MIT Press.
- McTeague, L. Bradley, M. & Lang, P. (2002). Creating a mental image: Is a picture worth a thousand words? Research presented at the 42nd annual meeting of the Society for Psychophysiological Research, Washington, DC.
- Meyers-Levy, J., & Peracchio, L. (1992). Getting an angle in advertising: The effect of camera angle on production evaluations. *Journal of Marketing Research*, 29, 454-461. Full text available on line.
- Miller, M., Patrick, C., & Leveston, G. (2002). Affective imagery and the startle response: Probing mechanisms of modulation during pleasant scenes, personal experiences, and discrete negative emotions. *Psychophysiology*, 39, 519-529.
- Mirapaul, M. (2001, March 5). Beyond hypertext: Novels with interactive animation. *The New York Times*, p. 13.
- Nakayama, K. (1999). Mid-level vision. In R. Wilson & F. Keil (Eds.), *The MIT encyclopedia of the cognitive sciences* (pp. 545-546). Cambridge, MA: MIT Press.
- Norman, D. (1988). *The psychology of everyday things*. New York: Basic Books, Inc., Publishers.

- Orton, P., Reeves, B., Leshner, G., & Nass, C. (1995). Effects of subjective camera angle (POV) and negatively-valenced footage. Paper presented to the Visual Communication Division at the annual conference of the International Communication Association, Albuquerque, NM.
- Palmer, S. (1999). Gestalt perception. In R. Wilson & F. Keil (Eds.), *The MIT encyclopedia of the cognitive sciences* (pp. 344-346). Cambridge, MA: MIT Press.
- Peterson, M. (1999). High-level vision. In R. Wilson & F. Keil (Eds.), *The MIT encyclopedia of the cognitive sciences* (pp.

- 374-377). Cambridge, MA: MIT Press.
- Plutchik, R. (1985). Emotions: A general psychoevolutionary Theory. In K. Scherer & P. Ekman (Eds.), *Approaches to emotion* (pp. 197-219). Hillsdale, NJ: Lawrence Erlbaum Associates, Publishers.
- Plutchik, R. (1989). Measuring emotions and their derivatives. In R. Plutchik & H. Kellerman (Eds.) *Emotion: Theory, research and experience* (pp. 1-35). San Diego, CA: Academic Press, Inc.
- Posner, M., & Fernandex-Duque, D. (1999). Attention in the human brain. In R. Wilson & F. Keil (Eds.), *The MIT encyclopedia of the cognitive sciences* (pp.43-46). Cambridge, MA: MIT Press.
- Potter, R., Carpentier, F., Kim, J., Choi, J., & Yu, H. (2002). The effects of music presence and pacing on listener physiological arousal. Research presented at the 42nd annual meeting of the Society for Psychophysiological Research, Washington, DC.
- Preston, J. (2001). Effects of image size on viewers' interpretations of emotional content in music videos. Paper presented to the Information Systems Division at the annual conference of the International Communication Association, Washington, DC.
- Reeves, B., Lang, A., Kim, E., & Tatar, D. (1999). The effects of screen size and message content on attention and arousal. *Media Psychology*, 1, 49-67. Full text available on line.
- Reeves, B., & Nass, C. (1996). *The media equation: How people treat computers, television, and new media like real people and places*. Cambridge University Press.
- Schacter, D. (1999). Implicit v. explicit memory. In R. Wilson & F. Keil (Eds.), *The MIT encyclopedia of the cognitive sciences* (pp. 394-395). Cambridge, MA: MIT Press.
- Scheffers, M., Meissner, C., & Edenfield, T. (2002). Face recognition memory: Have I seen you before? Research presented at the 42nd annual meeting of the Society for Psychophysiological Research, Washington, DC.

- Smith, D. (1991). *Video communication: Structuring content for maximum program effectiveness*. Belmont, CA: Wadsworth Publishing Company.
- Squire, L. (1999). Memory, human neuropsychology. In R. Wilson & F. Keil (Eds.), *The MIT encyclopedia of the cognitive sciences* (pp. 520-522). Cambridge, MA: MIT Press
- Steuer, J. (1995). Defining virtual reality: Dimensions determining telepresence. In F. Biocca & M. Levy (Eds.), *Communication in the age of virtual reality* (pp. 33-56). Hillsdale, NJ: Lawrence Erlbaum Associates, Publishers.
- Stromberg, P. (2000). The "I" of enthrallment. *Ethos*, 27(4),

490-504.

- Sundar, S., Brown, J., & Kalyanaraman, S. (1999). Reactivity vs. interactivity: Impression formation effects of message contingency in political websites. Paper presented to the Communication and Technology Division at the 49th annual conference of the International Communication Association, San Francisco, CA.
- Sundar, S., Hesser, K., Kalyanaraman, S., & Brown, J. (1998). The effect of website interactivity on political persuasion. Paper presented to the Sociology and Social Psychology Section at the 21st general assembly and scientific conference of the International Association for Media and Communication Research, Glasgow, UK
- Sundar, S., Kalyanaraman, S., Martin, C., & Wagner, C. (2001). Arousal, memory, and impression-formation effects of animation speed in web advertising. Paper presented to the Information Systems Division at the 51st annual conference of the International Communication Association in Washington, DC.
- Tulving, E. (1999). Episodic v. semantic memory. In R. Wilson & F. Keil (Eds.), *The MIT encyclopedia of the cognitive sciences* (pp. 278-280). Cambridge, MA: MIT Press. Coursepack pp. 97-99.
- Turkle, S. (1995). *Life on the screen: Identity in the age of the internet*. New York: Simon & Schuster.
- Vorderer, P., Knobloch, S., & Schramm, H. (2001). Does entertainment suffer from interactivity? The impact of watching an interactive TV movie on viewers' experience of entertainment. *Media Psychology*, 3(4), 343-363.
- Zettl, H. (1999). *Sight sound motion: Applied media aesthetics*. Belmont, CA: Wadsworth Publishing Company.