

Behavior Coding Research Internship  
PSYC 494 (3-credits; 9 hours/week) or PSYC 492 (2-credits; 6 hours/week)  
FA14

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Office Hours: Mon 1:30am to 2:30pm or by appointment  
Weekly meeting: Monday 12:30pm-1:30pm in 800 W. Franklin St, Rm 106 (Serpell Developmental Lab)

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## Course Description

This independent study course is intended for advanced undergraduate students and is designed to familiarize and engage students in research to develop a coding scheme that reliability identifies key learning-related affective states that researchers developing computer-based tutoring and cognitive training programs can use. This research project involves 1) manually coding datasets for the presence of key affective states such as frustration, embarrassment, stress, frustration, engagement, excitement, etc), 2) analyzing students' self-report and tutor-reports of perceived emotional and cognitive states, and 3) reviewing literature on automated detection of emotional states.

The student will gain experience with developing coding schemes and video coding of ethnically diverse students working with a tutor on a cognitive task. The students will be given the opportunity to develop writing skills by writing annotated bibliography entries that can be incorporated into literature review sections of an article for publication. The student will be introduced to multiple aspects of the research process, including conducting effective reviews of the literature, as well as coding, analyzing and reporting data.

## Course Goals

As part of this course, you will learn:

1. to read and critically evaluate research articles
2. to develop an annotated bibliography
3. to code video recordings of students engaged in a cognitive training task
4. to use the literature to develop a coding scheme
5. to present research articles to a group
6. about the process of research from conceptualizing a research question, to collecting, cleaning, analyzing data, and presenting findings
7. about the ethics of conducting research with humans, and the process of getting approval from an Institutional Review Board (IRB)
8. about professional associations and conferences and how to prepare a proposal, and poster

## Course Schedule

The student will meet with the research supervisor once a week for an hour. The supervisor will provide video coding training and engage the student in discussions integrating their experience with the coding and their readings. Recommended readings are listed on the last page of this syllabus.

## Course Assignments

*1. Annotated Bibliography:* The student will be responsible for doing a search of the literature and identifying articles relevant to our coding process this semester and creating an annotated bibliography of at least 10 articles (can include articles selected for presentation if the emphasis of the article is on behavior coding).

*2. Research Poster Proposal:* The student will be required to design, create and present a summary of the research project we will be engaged in over the course of the semester. Emphasis in this assignment will be

placed on articulating the methods, results and discussion sections of a publication in poster presentation format.

**3. Article Presentations:** The student will present 3 research articles during the weekly meeting with the supervisor over the course of the semester. The presentation will be based on a journal article related to the research being conducted. Discussions should be approximately 30 minutes, and address the main points of the reading.

**4. Data Coding & Attendance:** One point out of the total will be deducted for each absence after the first excused absence from any of the required activities (supervisor meetings and video-coding sessions).

## Evaluation

Final evaluation in this course (grade) will be based on the following:

Annotated Bibliography entries:	30 points
Research poster	25 points
Coding Progress (supervisor rating)	25 points (10pts for each of 2 ratings, 5pts for CITI training)
Presentation of research articles	15 points (5 points for each)
Attending scheduled research meetings	5 points
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TOTAL	100 points

The grade will be based on the sum of the earned scores according to the following scale.

A = 93 – 100	B+ = 87 – 89	C+ = 77 – 79	D+ = 67 – 69
A- = 90 – 92	B = 84 – 86	C = 74 – 76	D = 60 – 66
	B- = 80 – 83	C- = 70 – 73	F = < 60

**Citi-Training:** Collaborative Investigator Training Initiative (CITI) is required human subjects protection education for all team members. Details can be found here: <http://www.research.vcu.edu/irb/citi.htm#basic>. Register with a user name and password. WRITE THESE DOWN. You will need it if you don't complete the training in one sitting.

- Sign in as a Research Assistant.
- Complete the Social-Behavioral modules only (Social and Behavioral Conduct of Research Curriculum AND Basic Course Human Subjects Research Curriculum).
- You MUST pass **each** module at 80% or higher. Please retake the test for each section until you achieve at August 25 at our weekly meeting time.

## Important University/Departmental Guidelines

### Students with Disabilities

To receive accommodations, students must request them by contacting the Disability Support Services Office (828-2253). Accommodations begin at the point of presentation of documentation, and are not retroactive. Please feel free to meet with me to discuss your needs in regards to class.

### Safety

What to Know and Do To Be Prepared for Emergencies at VCU: 1. Sign up to receive VCU text messaging alerts (<http://www.vcu.edu/alert/notify>). 2. Know the safe evacuation route from each of your classrooms. Emergency evacuation routes are posted in on-campus classrooms. 3. Listen for and follow instructions from VCU or other designated authorities. Within the classroom, follow your professor's instructions. 4. Know where to go for additional emergency information (<http://alert.vcu.edu/>). 5. Know the emergency phone number for the VCU Police (828-1234). Report suspicious activities and objects.

### Honor policy and student conduct

Please note that you are expected to read and follow the University's honor policy and specifications for acceptable student conduct, read at: <http://www.assurance.vcu.edu/Policy%20Library/Honor%20System.pdf>

## Supervisor Ratings Form

Student Name \_\_\_\_\_ Supervisor Name \_\_\_\_\_

Date Ratings Completed \_\_\_\_\_ Number of Excused Absences \_\_\_\_\_

Number of Unexcused Absences \_\_\_\_\_

Place a mark in the box that best represents the level of the student's work on this research project. A mark in the "3" box means that the student exhibits these characteristics at a level of an undergraduate student who is likely to be able to successfully go on to graduate school. His/her performance is exemplary. A mark in the "1" box means that the student has performed so poorly that the supervisor has had to limit the roles offered to the student because his/her performance risks compromising the project by performing so poorly on tasks.

Rating	3	2	1
Student arrives and leaves at the scheduled time (if there has been more than one tardy or early departure, a score of 5 should not be given)			
Student completes assigned work on time			
Students work is high quality Student produces work void of errors the first time The product of his/her work meets the assigned criteria			
Student actively participates in supervision meetings Comes with questions Generates ideas Brings relevant materials			
Student communicates effectively with supervisor and others Speaks in a professional manner Is respectful Communicates essential information Is assertive and tactful			

### Students with disabilities

Students seeking adjustments or accommodations must self-identify with Ms. Joyce Knight (jbknight@vcu.edu, (804)828-2253, Student Commons), the coordinator of services for students with disabilities. After meeting with the coordinator and before the first assignment is due, I encourage you to meet with me to discuss your needs.

### Honor policy and student conduct

We will follow VCU's honor code policy [http://www.provost.vcu.edu/pdfs/Honor\\_system\\_policy.pdf](http://www.provost.vcu.edu/pdfs/Honor_system_policy.pdf) and policies related to student conduct <http://www.provost.vcu.edu/pdfs/policies/FacultyGuideToStudentConductInInstructionalSettings.pdf>.

## READINGS/ASSIGNMENTS

1. Azevedo, R., & Bernard, R. M. (1995). A meta-analysis of the effects of feedback in computer-based instruction. *Journal of Educational Computing Research*, 13(2), 111-127.
2. Baringer, D. K., & McCroskey, J. C. (2000). Immediacy in the classroom: Student Immediacy. *Communication Education*, 49 (2), 178 - 186.
3. Craig, S., A. Graesser, J. Sullins, & B. Gholson. 2004. Affect and learning: An exploratory look into the role of affect in learning. *Journal of Educational Media* 29:241-250.
4. D'Mello, S. K., S. D. Craig, B. Gholson, S. Franklin, R. Picard, & A. C. Graesser. 2005. Integrating affect sensors in an intelligent tutoring system. In *Affective Interactions: The Computer in the Affective Loop Workshop at 2005. International conference on Intelligent User Interfaces*, 7-13. New York: AMC Press.
5. McQuiggan, S., Lee, S., & Lester, J.C. (2007). *Early Prediction of Student Frustration*. Pavia, A., Prada, R. & Picard, R. W. (Eds). *ACII 2007, LNCS 4738*, 698 - 709. Springer-Verlag, Berlin, Heidelberg.
6. Mota, S. & R. W. Picard. 2003. Automated Posture Analysis for Detecting Learner's Interest Level. *Workshop on Computer Vision and Pattern Recognition for Human-Computer Interaction, CVPR HCI*, June, 2003.
7. G. Kaufmann and S. K. Vosburg, ""Paradoxical" mood effects on creative problem-solving," *Cognition & Emotion*, vol. 11, pp. 151-170, Mar 1997.
8. M. Spering, Wagener, D., & Funke, J. "The role of emotions in complex problem-solving.," *Cognition and Emotion*, vol. 19, pp. 1252-1261, 2005.
9. J. Kuhl, "Emotion, cognition, and motivation: II. The functional significance of emotions in perception, memory, problem-solving, and overt action.," *Sprache & Cognition*, vol. 2, pp. 228-253, 1983.
10. N. Schwarz, & Skurnik, I., "Feeling and thinking: Implications for problem solving," in *The Psychology of Problem Solving*, J. D. R. S. (Eds.), Ed. New York: Cambridge University Press., 2003, pp. 263-290.
11. Whitehill, J., Serpell, Z., Foster, A., Lin, Y.C., Pearson, B., Barlett, M., et al. (2011). *Toward an Optimal Affect-Sensitive Instructional System of Cognitive Skills*. *Proceedings of the IEEE Conference on Computer Vision and Pattern Recognition Workshop on Human Communicative Behavior*, (pp. 20 - 25).
12. Woolf, B., Burleson, W., Arroyo, I., Dragon, T., Cooper, D., & Picard, R. (2009). Affect-Aware Tutors: Recognising and Responding to Student Affect. *International Journal of Learning Technology*, 4 (3), 129 - 164.