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Welcome. Welcome or welcome back to Georgia Tech and to the introductory graduate class for the Engineering Psychology doctoral program. This course is a 3 credit course that is a prerequisite for advanced Engineering Psychology classes, including Engineering Psychology II.

Much of the initial learning of a topic will be done outside of class through the readings and supplementary materials (videos). Class time will be devoted to lectures, discussion, answering questions, and hands-on experiences. There will be both individual and team hands-on exercises.

The materials will be organized on t-square by week. I will circulate everyone's email address. Please make a distribution list so you can send along questions and comments before and during the week covering the materials. If I have your questions before the class, I'll likely do a better job of answering them and may be able to gather additional information for you.

Of course, the key to successful class discussion and experiences is that everyone is prepared when class starts. We will discuss and enhance your knowledge of the material during class. Finally, there will be two exams.

Learning Objectives

- 1) Know and understand a sampling of the basic methods of engineering psychology
- 2) Be able to work on an interdisciplinary team
- 3) Be able to communicate orally and in writing to human factors experts and to professionals not proficient in human factors

Evaluations

Exams: There will be 2 exams; a midterm and a final. The exams will be worth 75% of your grade. You need to bring a blue book in for the exams.

Exercises: The remaining 25% of your grade comes from the hands-on experiences. Some of these are individual evaluations (like the practicums on using measuring devices) and some are team evaluations (like the HTA report and presentation and the Environmental Analysis Report). There will be a number of exercises begun in class that could be assigned as homework.

When bad things happen to good people

Grad students are never sick, but if you have a documented excused absence: 1) All makeup exams will be given during the final exam time at the end of the fall semester; 2) late assignments will lose a letter grade; 3) there is no mechanism to compensate for a missed team event.

Procedures for Providing Accommodations (<http://www.adapts.gatech.edu/index.php>)

Any student whom (sic) is requesting accommodations as a result of a disability should be referred to the ADAPTS-Disability Services Program. Once referred, the staff in the ADAPTS-Disability Services

Program will work with that student to arrange for appropriate accommodations. The student will then receive an accommodation letter detailing their necessary accommodations and should make arrangements to meet with each instructor, bringing with them a letter from the ADAPTS-Disability Services Program detailing the identified accommodations. Should there be any discrepancies with the letter; a call should be placed to the author.

Plagiarism. For you to have made it this far, you must know what plagiarism is and how to avoid it, or you're really good at it. See the GaTech Student Honor Code if you have any doubts or ask me before making this career ending mistake.

Topic	Assignments	Tuesday	Thursday
Week 1: Cognitive Science Introduction (Aug. 23)	<ul style="list-style-type: none"> Marr (1982) Hutchins (1995) 	Lecture	Brief Lecture / Discussion
Week 2: Engineering Psychology Introduction (Aug. 30)	<ul style="list-style-type: none"> Casey (1998). Set phasers on stun Casey (2006). Picture window Cooke & Durso (2008). One chapter from Chapters 2-6 chosen in class 	Brief Lecture / Discussion	Presentation (Hands on)
Week 3: Situational Awareness & Workload (Sept. 6)	<ul style="list-style-type: none"> Durso, F. T., Rawson, K. A., & Giroto, S. (2007). Comprehension and situation awareness. <i>Handbook of applied cognition</i>, 2, 163-193. Vu, K. P. L., & Chiappe, D. (2015). Situation awareness in human systems integration. Wickens, C., & Tsang, P. S. (2015). Workload. 	Brief Lecture / Discussion	Brief Lecture / Discussion
Week 4: Human System Integration (HSI) (Sept. 13)	<ul style="list-style-type: none"> Lehto & Landry Ch. 1 Boehm-Davis, D. A., Durso, F. T., & Lee, J. D. (2015). <i>APA handbook of human systems integration</i>. American Psychological Association Boehm-Davis & Cooke (2015). Case Studies 	Brief Lecture & Discussion	HSI Exercise (Hands on)
Week 5: HFES Meeting (Sept. 20)	HFES Webinar (Hands On)	HFES Webinar (Hands On)	HFES Webinar (Hands On)

Week 6: Levels of Automation (Sept. 27)	<ul style="list-style-type: none"> • Sheridan (2015) Automation • Parasuraman (2015) Workload & Automation 	Brief Lecture & Discussion	Use method for making a copy (Hands on)
Week 7: Methods-I (Oct. 4)	<ul style="list-style-type: none"> • Kirwan & Ainsworth Ch. 2 • Lehto & Landry Ch. 8 	Brief Lecture & Discussion	Use method for making a copy (Hands on)
Week 8: Methods-II (Oct. 11)	<ul style="list-style-type: none"> • Stanton Ch. 30, 35, & 41 • McDonald et al. (2014) 	Brief Lecture & Discussion	HTA of copy machine (Hands on)
Week 9: Cognitive Task Analysis (Oct. 18)	<ul style="list-style-type: none"> • Clark et al. (2006) • Lehto & Landry Ch. 10 	Brief Lecture & Discussion	Strasbourg Videos 1 & 2
Week 10: Error (Oct. 25)	<ul style="list-style-type: none"> • Thomadsen Ch 23 • Mateo & Kirchhoff Ch 3 • Hollnagel (2007) 	Brief Lecture & Discussion	Evaluate Video (Hands on)
Week 11: Perception & Attention (Nov. 3)	<ul style="list-style-type: none"> • Delucia & Levulis (2015) • Swets et al. • Wickens (2002) 	Brief Lecture & Discussion	Signal Detection Theory (Hands on)
Week 12: Cognition (Nov. 8)	<ul style="list-style-type: none"> • Wickens & Carswell • Sieck & Klein (2007) • Cooke, Gorman, & Rowe 	Brief Lecture & Discussion	Cognitive Discussion (Hands on)
Week 13: Macroergonomics (Nov. 15)	<ul style="list-style-type: none"> • Hendrick 1 • Hendrick 2 • Kleiner • Carayon et al. (2015) 	Brief Lecture & Discussion	Macroergonomic Evaluation (Hands on)
Week 14: Illumination	<ul style="list-style-type: none"> • Boyce 	Lecture & Discussion	No Class

(Nov. 22)

Week 15: Sounds & Climate	<ul style="list-style-type: none">• Casali• Sanders & McCormick Ch. 17	Lecture & Discussion	Practica (Hands on)
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(Nov. 29)

Week 16: Motion & Vibration	<ul style="list-style-type: none">• Salvendy Ch. 23, 24	Lecture & Discussion	Practica (Hands on)
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(Dec. 6)

Finals week	Final Exam	Practica (Hands on)	Environmental Analysis Report (Hands on)
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Reading assignments are on t-square for that week