

# CS 5369J Advanced Topics In Human Computer Interaction, Fall 2008

<b>Section 001</b>	6:30-9:15p.m.
<b>Location</b>	Derr 240
<b>Instructor</b>	Dr. Oleg Komogortsev
<b>Office</b>	Nueces 261, Telephone: (512) 245-0349
<b>E-mail</b>	ok11@txstate.edu
<b>Webpage</b>	The course material will be available from TRACS website <a href="https://tracs.txstate.edu/portal">https://tracs.txstate.edu/portal</a>
<b>Office hours</b>	Wednesday, Thursday 2-4:30p.m.

## Course Description

The course is going to provide hands on knowledge of next generation of human computer interaction. The following aspects are going to be covered: eye-gaze human computer interaction, gaze-contingent displays, eye movement detection and processing, Kalman filters. Eye-gaze based interface design and evaluation. Some aspects of the Brain Computer Interfaces (BCI) are going to be discussed. The students are going to be evaluated based on tests, programming projects and oral presentations of research papers.

This class will provide you will skill of creating/evaluating and what is very important understanding of what eye-gaze guided interfaces are. You will be able to put these skills and your project on your resume when applying to such companies as Apple and Microsoft which are interested in this technology as one of the directions of future of interface design.

## Main Text

Eye Tracking Methodology: Theory and Practice, 2nd ed. Duchowski, A. T. (2007), Springer-Verlag, London, UK. ISBN: 978-1-84628-808-7

## Supplementary Text

The Human-Computer Interaction Handbook: Fundamentals, Evolving Technologies, and Emerging Applications, Second Edition (Human Factors and Ergonomics) by Andrew Sears (Editor), Julie A. Jacko (Editor) ISBN-13: 978-0805858709

## Materials and equipment

A PC will be required to complete the lab assignments. You may use your own personal computer or a computer on campus. If an eye-tracker required for the project the access to this equipment is going to be provided. Expect some programming (first project) for your projects to

be done in MATLAB (it is a rapid – development/prototyping tool). Subsequent projects can be done in the programming language of your choice.

**Prerequisites** The prerequisite for this class is Data Structures (CS3358) with a grade of C or better. You are expected to have completed the prerequisites for this course, and failure to do so may impair your chances for success in this class. You are encouraged to consult with the instructor promptly if you have not completed the prerequisites.

**Credits** 3

## **Projects & Oral Presentations**

Projects are going to be programming assignments that will require a brief presentation about goals of the project, whether those goals were achieved etc. In addition to it there will be a presentation of the research paper related to the class material.

## **Grading**

- 2 exams. 40%
- 1/5 projects 40%
- 1/2 oral presentations 20%

## **Final Exam Time**

December 16<sup>th</sup> 8:00-10:30p.m.

## **Academic Honesty:**

All work submitted for a grade is expected to be your own. As a guideline, you may talk together, but do not write together. Projects may be subject to review through TurnItIn. Students in this class are expected to adhere to the Texas State University Honor Code. Any violation means that the work will not be accepted and further action will be taken. Plagiarism will not be tolerated.

## **Attendance:**

Regular and punctual attendance is expected, and excessive absences may influence your final grade. It is your responsibility to know what goes on during class. It is up to the student to make up any missed material. Make-ups will only be given in the case of an excused absence or a documented, valid emergency. This includes tests and homework. I encourage you to contact me if an emergency arises.

## **Academic Policies:**

See the Student Handbook for more information about Texas State Academic Policies including probation, suspension, academic honesty, dropping a class, incompletes, grade changes, and withdrawal.

## **Respectful Student Conduct**

This class follows Texas State University's regulations regarding behavior in the classroom. It is expected that each student will be respectful to the instructor as well as to fellow classmates. Students should behave maturely and professionally.

Use of profanity, rudeness towards fellow students or the instructor, angry outbursts, refusal to participate in classroom activities, repeated tardiness, ringing of cell phones and leaving the classroom prior to class dismissal without the approval of the instructor are just some examples of disruptive behavior. The instructor will ask disruptive student to cease and desist and will inform the student of possible suspension and/or dismissal from class.

## **Special Needs:**

Students with special needs as documented by the Office of Disability Services should identify themselves at the beginning of the semester.