CSE 4392: Research Experiences for Undergraduates in "Information Processing and Decision Making for Intelligent and Secure Environments"

Summer 2008

Short Course Description:

This course is a requirement for the participants of the CSE@UTA summer REU (Research Experiences for Undergraduates) site program. Students will be given lectures that will prepare them and show them how graduate studies are different from undergraduate studies. Students will be introduced to cutting edge research and to how to do relevant computer science and systems related research on their own.

Prerequisites:

- Being admitted to the REU program of CSE@UTA

Instructor: Gergely Záruba

- Office: 113 GABC
- Phone: (817) 272-3602
- Office hours: Mondays 1:00pm – 1:50pm
  (other consultations by appointment only.)
- Instructor's e-mail: zaruba@uta.edu
- GTA: Arnab Biswas   abiswas@uta.edu
  Office hours: mostly in the lab

Other REU coordinators:

- Dr. Manfred Huber (REU site P.I.) huber@europa.uta.edu
- Dr. Ishfaq Ahmad (REU site co-P.I.) ahmad@uta.edu
- Dr. J. Carter Tiernan (REU site senior personnel) tiernan@cse.uta.edu
- Other faculty sponsoring research projects

Objectives:

The objective of this course is to give an introduction and insight into performing research to undergraduate level students. Research projects will involve individual participants working with graduate students and a faculty advisor. Research is focused in the broad area of "Intelligent and Secure Environments." Goals are to i) learn research methodologies, ii) perform research in the context of an ongoing project, and iii) develop agent technologies. More specifically research areas are:

- Intelligent Device Control
- Connected Devices
- Monitoring
- Service Robotics
- Multimedia
- Environment Security

Outcomes:

By finishing this course, students will posses the knowledge of how to perform research and prepare publications and reports. They will be prepared to understand what the life of a thesis-option graduate student can be, and they will learn to understand and love the joys that the research process can provide.

Details of Curriculum:

- Although the class itself is for three credit hours, students are expected to spend 40 hour weeks doing their research.
- Classroom sessions will cover basic materials
- Every student will present her/his research results
- Every student will write a report of the work
- At the end of the program all results will be presented in an "open-house" workshop
- The facilities and equipment of the Robotics Research Lab (among others) is going to be available for students to do their work.
- Class WWW site: http://ranger.uta.edu/~reu/REU2008/
- Text Book: W.C. Booth, G.G. Colomb, J.M. Williams, "The Craft of Research," third edition, The University of Chicago Press, 2008 978-0-226-06566-3; text book is provided by the program, courtesy of the National Science Foundation
  Other course materials include papers, academic research publications, WWW documents, Instructor's notes and notes taken by the students

Details of Class Policies:

Course Grades:

Course grades will be based on the following:
- Research Project work: 60%
- Class presentations: 15%
- Compiling final report: 15%
- Class participation: 10%
  - Although no attendance catalogue will be kept, students are expected to attend classes and arrive on time, and to interact during debate and Q&A sessions or the seminars of their fellow students.

Tentatively, course grades are determined from the total points (100) earned as follows:
90-100: A ; 75-89: B ; 60-74: C ; <60: F

Make-ups:

There will be no make-ups. Work has to be completed within the ten weeks of the program.

Notes:

- The Instructor reserves the right to modify course policies, the course calendar, and assignment or project point values and due dates.
- All students are expected to be responsible users of the computer systems used for this course.

Accepted file formats for papers/reports:

The Instructor is requiring the students to turn in their papers and reports either in *.pdf* (Adobe's portable document format – can be generated, e.g., either by *Adobe Distiller* or later versions of *ghostscript*) generated, e.g., from Latex source files by *latex* and *dvips* or from the Windows operating system (printing the document to a file) formats. All files, videos, and code must be turned in along with the final report in a zip or a gzip (or tgz, .tar.zip) archive. Students are encouraged to use the Latex language and its appropriate compilers or the Microsoft Office program family (please see the Instructor if you intend to use anything else). If viruses are submitted along with the files a student turns in, the Instructor may degrade the grade.

Academic honesty:

All students are expected to pursue their academic careers with honesty and integrity. "Scholastic dishonesty includes, but is not limited to, cheating, plagiarism, collusion, the submission for credit of any work or materials that are attributable in whole or in part to another person, taking an examination for another person, any act designed to give unfair advantage to a student or the attempt to commit such acts" *(Regents' Rules and Regulations, Part One, Chapter VI, Section 3, Subsection 3.2, Subdivision 3.22.)* Students found guilty of dishonesty in their academic pursuits are subject to penalties that may include suspension from the university. Any student found guilty of academic dishonesty will receive a -100% for that work (project, exam, homework, etc.) as well as having the course grade lowered one full letter grade - in addition to any other penalties assessed (suspension, expulsion, probation). These and other applying UTA rules, will be strictly enforced. Any case of academic dishonesty will be treated in accordance with the UTA ***Handbook of Operating Procedures*** or the Judicial Affairs website at http://www2.uta.edu/discipline. If you do not understand this policy, it is your responsibility to obtain clarification or any additional information you may require

Students are allowed to discuss homework with classmates, but are **not** allowed to copy the solutions of others or share solutions with others. All work turned in for grading must be the student's own work. Students will be required to sign an academic honesty letter to be kept with the instructor. Failing to provide with such a letter by census day will result in the respective students' withdrawal from the class. In addition to the punishment from the University, the instructor will give a "minus 100%" grade on the given assignment/exam in question.

Disabilities:

If you require any accommodation based on disability, please meet with the Instructor (with your supporting papers) in the privacy of his office the first week of the semester to be sure you are appropriately accommodated.

Grievance Procedure

Anyone feeling that a dispute exists after the grading of any assignment or exam may submit a written grievance. This grievance should identify the item in dispute and arguments supporting the student's position. Grievances must be submitted in writing within two class periods following the return of the assignment. The instructor or GTA agrees to return a written response to the student's grievance within two class periods from receipt of the grievance. If the error is due to wrongful calculation of points, then no grievance needs to be submitted. If a written grievance is received, the instructor and GTA reserve the right to re-grade the entire exam (not just the specific point in question).