CS 582 Modeling and Simulation II, Spring 2014
Syllabus

Lecture sessions

Days and times: Monday and Wednesday, 5:30–6:50pm
Place: Technology Hall N308

Instructor

Name: Mikel D. Petty, Ph.D.
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Office: UAHuntsville, Technology Hall N300G
Office hours: Monday and Wednesday, 3:00–5:00pm, *or by appointment*

Course information

Description: Advanced methods in physics-based modeling and simulation software development. Development of models and software for large simulation systems, including high-performance parallel simulations and real-time distributed simulations. Simulation interoperability using the High Level Architecture and commercial products. Team-based development of interactive simulation systems. Team participation in international simulation event.

Prerequisites: CS 581 or MOD 501

Textbook: None

Homework, projects, exams, and grading

Homework: There will be no conventional homework exercises. Instead, students will develop deliverable software and documents associated with the Simulation Exploration Experience project over the course of the semester.

Projects: This course is built around a single large project. Students in the course will, as a team, develop lunar exploration simulation models and participate in the 2014 Simulation Exploration Experience, described here: http://exploresimulation.com/.

Exams: One mid-term exam and one final exam will be given. The exams will be closed book and notes; *no reference materials may be consulted during the exams*. Use of iPods or other similar headphone devices is not permitted during exams. The exams will consist of multiple choice questions based on the material in the lectures and the project. The mid-term will cover the material lectured on prior to that exam. The final will cover the material after the mid-term.

Grades: Semester grades will be based on the project deliverables, project participation, exam grades, and a student peer assessment of team contributions, as follows:

- SEE contribution 40%
- Technical report contribution 25%
- Mid-term examination 10%
- Final examination 15%
- Student peer assessment 10%

Final semester grades will be based on total weighted percentage in the usual way:
[90, 100] ⇒ A, [80, 90) ⇒ B, [70, 80) ⇒ C, [60, 70) ⇒ D, [0, 60) ⇒ F,
where [*x*, *y*) means ≥ *x* and < *y*.

Missed exams: For anticipatable absences (e.g., work-related trips), exams may be taken *in advance* of the scheduled exam date *by prior arrangement* with me. Make-up exams for exams missed due to unforeseen events which result in a student not being present during the scheduled exam time will be considered only after verifiable documentation of a justifying crisis is provided. Make-up exams will be different from and at least as difficult as the originals.

Project information

Key dates

- First lecture: Jan 8
- Integration testing starts: TBD
- Spring "Break": Mar 24-28
- SEE demonstration event: Apr 14-16
- Last lecture: Apr 23
- Final examination: Apr 28
- Technical report due: Apr 28

Deliverables (all deliverables are team deliverables)

- Statement of work
- Project plan
- 2013 Smackdown federation subset running at UAHuntsville
- 2014 SEE federates software (new and/or enhanced 2013 software)
- Participation in 2014 SEE
- Technical report

Other important information

Expectations: This is a project-oriented team graduate class. Students in this course are expected to be able to design and execute a challenging project, organize their own tasks and perform them on schedule, overcome obstacles through independent investigation, and expend considerable time and effort outside of regular class hours.

Attendance and class participation: Neither attendance nor class participation is formally required. Attendance will not be taken. However, team success depends on contributions of time and expertise from every student.

Class time: It is my practice to start and end promptly on the scheduled class times. If you would like to catch the beginning of the lecture, please be in the classroom at the start time. If a lecture is continuing past the class end time and I haven't realized it, please bring it to my attention. You are welcome to arrive late or leave early if your schedule so requires, but please do so quietly out of consideration for your fellow students.

In-class questions and participation: If you have questions during class, you are encouraged to ask them. *Please don't hesitate to ask questions, they are welcome.* Feel free to ask questions at any time, and to interrupt me during the lecture if necessary to get your question in.

Students with existing knowledge of the material being presented are strongly encouraged to participate by offering their elaborations, insights, and corrections during the lectures. The instructor claims no monopoly of knowledge of the course topics and the educational experience for all is enriched by in-class participation of knowledgeable students.

Office hours and out-of-class questions: If you would additional like out-of-class explanations of the course material or homework assignments, you are encouraged to visit me during the scheduled office hours if possible, or to arrange other appointment times that suit your schedule. *Please take advantage of office hours, I want to help you learn the material and succeed in the course.* You are also welcome to contact me via telephone or email at any time. Telephone and email contacts will be returned as soon as possible, but because I have research duties, "as soon as possible" may not be immediately or even the same day.

Academic honesty: UAH's policy on academic honesty, discussed in the code of Student Conduct, will be strictly enforced. All graded work in this class is expected to be your own. You may discuss the course ideas with other students but not specific assignment solutions.

Course web site: Course information and documents will be available at the course web site: http://www.uah.edu/cmsa/academics/cs582-spring-2014. Course lectures will be posted there prior to being covered in class, and you are encouraged to download and print them and to have them available during the lectures for note taking. Material on the course web site for students of this course only, please do not redistribute anything found on the course web site.

Complaint Procedures: If you have difficulties or complaints related to this course, your first action usually should be to discuss them with the instructor. If such a discussion would be uncomfortable for you or fails to resolve your difficulties, you should contact Professor Heggere Ranganath, Chair of the Computer Science department. Professor Ranganath's office is TH N300B. His telephone number is 256-824-6088. If you still are unsatisfied, you should discuss the matter with Dr. Daniel Rochowiak, Associate Dean of the College of Science. The Associate Dean's office and telephone number are MSB C206 and 256-824-6844.

Students with Disabilities: If you have a disability that may require some modification of seating, testing, or other aspects of the class, please visit the Disability Support Services (136 Madison Hall, 256-824-6203, dssproctor@uah.edu) to request a Letter of Accommodation. After you get the letter, please bring a copy to the instructor after class or during office hours.

UAlert Emergency Notification System: UAHuntsville has implemented the UAlert emergency notification system. UAlert allows you to receive time-sensitive emergency messages in the form of e-mail, voice mail, and text messages. Everyone who has a UAHuntsville e-mail address will receive emergency alerts to their campus e-mail address. In order to also receive text and voice message alerts, you are asked to provide up-to-date phone contact information. Participation in UAlert text and voice messaging is optional, but enrollment is strongly encouraged. You can't be reached through UAlert unless you participate. The information you supply is considered confidential and will not be shared or used for purposes other than emergency notification. To review your UAlert account, add or update phone and alternate e-mail addresses, and set the priority for your contact methods, please visit the UAlert web site: http://ualert.uah.edu.

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