Syllabus for SIE 431/531
Simulation Modeling and Analysis
Spring 2012

Course:

Lecture: MWF 10-10:50, AME S212

Lecturer: Rashid Aljalahema

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and by appointment

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Course Description: This course is designed to develop an ability to model and analyze real systems using discrete event simulation. Simulation is a powerful tool. Mastering such a tool is a valuable asset in the workplace and in academic research. During this course, one should expect to gain experience in:

1. Formulating an appropriate simulation model for a system.
2. Implementing the model as a computer program.
3. Evaluating the output of the model.

Prerequisites: Advanced Standing and SIE 305 (or a good background in probability and statistics)

Course Website: Course material, announcements, grades and other pertinent course information will be posted on the course’s D2L website (www.d2l.arizona.edu). Students should regularly visit the D2L site to stay up-to-date with the course announcements.

Lecture Videos: This course is offered also as a distance learning course. The course lectures are videotaped, and all students have access to these lectures. The videos will be available on (https://webcast.engr.arizona.edu/2012/Spring/SIE/SIE431_Aljalahema/)

Homework: Homework will be assigned throughout the semester. Homework is due at 5PM (Arizona Time) on the due date. All assignments must be uploaded to the appropriate D2L dropbox for that assignment.

Late homework can be turned in up to 24 hours after the due time. They will be assessed a 15% penalty for tardiness. A homework turned in at 5:05 p.m. on the due date is as late as a homework turned in at 4:55 p.m. the day after the due date. There will be no exceptions to this rule, so plan your time appropriately.

In-Class Exercises: There will be several in-class exercises. These will be conducted during class for approximately five to ten minutes. They will be graded as pass or fail. If you attempt the in-class exercise with some effort, you will get a passing grade. If you miss an in-class exercise, you will not be able to take that exercise again. To receive full credit on the in-class exercise portion of your grade, you must pass 80% of the total number of in-class exercises. These exercises are meant for practicing the material covered in the class. Due to the fact that some students are taking this class off-campus, the in-class exercises are due by midnight the day they are conducted. All submissions must be uploaded to the appropriate D2L dropbox.

Project: There will be a project that must be completed to pass the course. Projects could be done in small groups of up to 3 students. Undergraduate students will be given a problem to work on. Graduate students will select their topics in consultation with me. Further information on the project will be provided in a separate handout after the first midterm.

Exams: There will be two midterms and a final. The final exam will be cumulative, but with an emphasis on the material covered since the second midterm exam.

Note to SIE 531 Students: As graduate students, you are expected to do more. Some of you will use simulation techniques extensively in the future. So you are expected to dig a little deeper in the material. I will ask you to do an extra question on some assignments. You will also get an extra question on the exams.
Midterm Exams Schedule (Tentative):

Midterm 1:  Monday, February 20, 2011
Midterm 2:  Monday, April 9, 2011

Final Exam: Wednesday, May 9, 10:30AM–12:30PM, in AME S212

Grading:

Homework  20%
In-Class Exercises  5%
Project  20%
Midterms  30% (15% each)
Final  25%

Grading Scale

A  90-100
B  80-89
C  70-79
D  60-69
E  below 60

Working Together: It is acceptable to work together on homework assignments; however, no copying is allowed. Each student must turn in their own homework assignment in his/her own words. If you copy another student’s homework, both parties will be given a grade of 0 on that assignment. I recommend that students work alone on the homework assignments because understanding the problems in the assignments translates to better exam grades. If you do seek help from another student, please recognize that student clearly on the homework.

Absences: You are responsible for all materials covered in class, so you are expected to attend every class. All holidays or special events observed by organized religions will be honored for those students who show affiliation with that particular religion. Absences pre-approved by the UA Dean of Students will be honored.

A University excuse from a scheduled class activity such as an exam must be presented in writing no later than one week prior to the date of the absence. An absence due to illness or family emergency
may be excused, provided that you can supply acceptable written evidence if required, and that you notify the lecturer as soon as possible. Notification is almost always possible immediately upon occurrence of an emergency. If you’re too sick to telephone, you can get a friend to do it. Failure to make such timely notification may result in denial of your request. I do not give make-up exams; so if you miss an exam due to illness or family emergency while providing acceptable written documentation, I will weigh the final as 40%, of the grade instead of 25%. Notice that this means that if you miss both midterms, you will receive a grade of 0 on the second midterm. Some rare exceptions may be considered.

**Students with Disabilities:** If you anticipate issues related to the format or requirements of this course, please meet with me. I would like us to discuss ways to ensure your full participation in the course. If you determine that formal, disability-related accommodations are necessary, it is very important that you be registered with Disability Resources (621-3268; [drc.arizona.edu](http://drc.arizona.edu)) and notify me of your eligibility for reasonable accommodations. We can then plan how best to coordinate your accommodations.

**Academic Dishonesty and Plagiarism:** All UA students are responsible for upholding the Code of Academic Integrity, available through the office of the Dean of Students and online ([deanofstudents.arizona.edu/codeofacademicintegrity](http://deanofstudents.arizona.edu/codeofacademicintegrity)).

Threatening behavior by students is strictly prohibited. For detailed information see: ([policy.web.arizona.edu/policy/threaten.shtml](http://policy.web.arizona.edu/policy/threaten.shtml)).

**Expectations:** I expect that everyone will maintain a classroom conducive to learning. I like an informal atmosphere, but it must be orderly. Thus, everyone is expected to behave with basic politeness, civility, and respect for others. In particular, talking in class is ok if it’s part of a class discussion or with me. Private communications are not, especially during tests. Neither are reading extraneous materials, using electronic equipment, or sleeping.

**Suggestions:** Suggestions for improvement are welcome at any time. Any concern about the course should be brought first to my attention. Further recourse is available through the SIE departmental office in Old Engineering room 111.