

Measurement and Data Analysis in Biomedical Engineering Spring 2012

- TIME:** Tuesday: 9:00-10:45; Thursday: 8:00-10:45
Laboratory also available M,W,Th 8:00-16:45pm and Tu,F 8:00-13:45
- PLACE:** T: Engineering 214, Th Laboratory in ECE 337.
- INSTRUCTORS:** Jennifer Barton, Keating 131, 621-4116, barton@u.arizona.edu
Urs Utzinger, Keating 131, floor, 626-9281, utzinger@email.arizona.edu
For laboratory emergencies call Urs Utzinger (520) 975 0522
- TA & Grader:** Darren Haskett, dhaskett@email.arizona.edu
- OFFICE HOURS:** Dr. Utzinger: Tu 11-12 and Fr 11-12 in ECE 337.
Dr. Barton: Tu 11-12 in Engineering 106
Haskett:
Other times by appointment
- TEXT:** Minimum: "Bioinstrumentation" J.G. Webster, ed., ISBN 978-0-471-26327-2
Recommended: "Medical Instrumentation: Application and Design" J.G. Webster, ed, ISBN 0-471-15368-0
LabVIEW instruction book, available in ECE 307
Supplemental reading, see lecture notes and laboratory descriptions
- COURSE GOALS:** Provide students with the knowledge and practical techniques to sense, acquire, process, and display biomedical signals using a computer-based system.
- GRADING:** Grades will be based on individual and group performance on exam and laboratory projects. The percentage weight of grading is as follows:
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|---------------|-----|
| Midterm: | 20% |
| Final | 25% |
| Prepared Labs | 35% |
| Project Lab | 20% |
- EXAMS:** The tentative exam schedule is as follows:
Midterm: Take home 24 hrs, week before Spring break
Final exam: In class during standard time for T/Th 8am classes
- LABORATORY:** Students will complete several prepared labs in groups of 3 students. For the final lab students will perform a project of their own choosing, in groups of two or more. Students are expected to choose a more challenging, open-ended project. Grading will be based on project performance, quality of the laboratory journal (all labs), written reports (ECG, PulseOxi and Selected Project) and oral report (Selected Project only). Completion of the laboratories will require time outside of the scheduled laboratory period.

ADMINISTRATIVE POLICIES AND DETAILS

- Prerequisites:** Proficiency with calculus, basic circuit design (remedial instruction available for the latter).
- Attendance:** Both lecture and laboratory attendance are expected. Excessive or extended absences from class are sufficient reason to recommend that a student be administratively dropped from the course. The enrollment in this course is limited, so students not attending the first day of class may be administratively dropped. If the student is administratively dropped after the end of the fourth week of classes, it will result in a failing grade being awarded in that course.
- Participation:** is also expected. Please take part in class discussion and take advantage of the office hours of the instructors. Participation may be considered when a student's grade is borderline.
- Lab partners:** You will work in groups of 3 (or 2) on the laboratory assignments. In general, all lab partners will be given the same grade for the laboratory notebook, written and oral reports. However, a lack of participation or contribution to the partnership may be grounds for earning a lower grade than the participating partners.
- Homework / Pre-labs:** will be assigned some Tuesdays. Pre-labs are required to be completed before the laboratory. Homework assignments will not be graded; they are for practice and test preparation only. However, we will note who attempted the homework and this will be considered part of your class participation.
- Exams:** There will be one midterm exam and one final examination. Any suspected grading errors must be reported in writing to the instructor within one week of receiving your graded test back. A make-up exam will be given in the case of an illness and medical emergency (doctor's note required) if we are notified in advance of the exam by telephone or email. We will consider giving a makeup exam for other absences (e.g. to attend a family funeral) if we are notified in writing and provided documentation of the event you wish to attend no less than three days prior to the exam date. Job interviews and conferences will not be accommodated.
- Midterm Take-home Exam:** You will have 24hrs to complete your take home exam. Within a window, you will be able to select the day of the week you are taking the exam.
- Withdrawals:** You may withdraw from class however if you wish to drop the course you must take appropriate action. Ceasing attendance does not automatically drop you from the course. If you are still on the class roll at the end of the semester, you will receive 0's for any work not completed and will be graded accordingly. Appropriate actions and their deadline are listed online in the UA Academic Calendar / Spring 2012 Dates and Deadlines.
- Academic Integrity:** The University's Code of Academic Integrity states that students shall not "represent the work of others as their own." This policy will be applied to all work submitted for a grade, including exams, LabVIEW programs, and laboratory writeups. You are welcome to work with your classmates on the homework.