**Instructor:** J. Maps  
**Office:** 384 MWAH  
**Phone:** 726-8125  
**E-mail:** jmaps@d.umn.edu

**Office hours:** MWF 9-10 am, Tu,Th 3-4 pm, or by appointment.

**Course info:** [http://www.d.umn.edu/~jmaps/phys5061/](http://www.d.umn.edu/~jmaps/phys5061/)

**Prerequisites** Phys 2033, Phys 3061 or the equivalent.


**Course content** Useful electronics and signal processing techniques, use of computers for data acquisition and experiment control, experimental uncertainties and error analysis, survey of experimental techniques in various areas. 2 hours/week lecture 3 hours/week lab.

**Lab work** Labs will meet weekly in MWAH 379. In addition to the currently scheduled 1 hour/week we need to find a time for 2 more hours (at least!). The book by Essick will serve as the basis for a number of lab exercises early in the semester. Once a foundation in using LabVIEW is established the labs will progress to more open-ended projects. You will need a lab notebook for keeping notes on work done in lab. Beyond documenting lab work in the notebook, short summaries on lab exercises and more substantial reports on later projects will be assigned.

**Other Assignments** A number of homework exercises will be assigned during the semester.

**Grading** The following components and weights are anticipated, subject to adjustment: Lab notebook and brief reports 25%, project reports 25%, homework 25%, mid-term exam 10%, final exam 15%.  
Letter grades: typically $\geq 85\% = A-$, $A$, $\geq 70\% = B-$, $B$, $B+,$ $\geq 55\% = C-$, $C$, $C+,$ $\geq 50\% = D$.

**Late work** Work submitted after 5 pm on the due date is late. Work up to 2 days late will be penalized 20%, and 50% thereafter, up to 1 week.

**Assessment** Samples of student work in this course will be collected for the purposes of assessment of student learning in terms of desired program outcomes, particularly with regard to: Execution - design, set-up and carry out an experiment, using models analytical techniques, or laboratory equipment; and Communication - communicate scientific ideas to technical and non-technical audiences.

**Disabilities** Individuals who have a disability, either permanent or temporary, which might affect their ability to perform in this class are encouraged to inform the instructor at the start of the semester. Appropriate adaptation of methods, materials, or testing may be made as possible to provide for equitable participation. To learn about services that UMD provides to students with disabilities and to identify appropriate accommodations contact the Office of Disability Resources, in 256 KSC (726-6130) or visit [www.d.umn.edu/access](http://www.d.umn.edu/access).

**Miscellaneous policies** The information in this syllabus is intended as a guide. The instructor may adjust course requirements and policies as outlined here as deemed necessary. Such changes will be posted.  
Students need to be familiar with the UMD academic policies outlined at [http://www.d.umn.edu/vcaa/SyllabusStatements.html](http://www.d.umn.edu/vcaa/SyllabusStatements.html)