

UNIVERSITY OF CALIFORNIA-BERKELEY  
DEPARTMENT OF MATHEMATICS  
**Math 121A, Fall 04**

**Lectures.**

Time MWF 3–4 p.m.  
Place 241 Cory Hall

**Computer time.**

Time TT 5–6 p.m.  
Place computer lab, basement of Evans Hall

**Instructor.**

Name Olga Holtz  
Office 821 Evans Hall  
Telephone 642-2122  
Email [holtz@math.berkeley.edu](mailto:holtz@math.berkeley.edu)  
Office hours MF 11 a.m. to midday  
and by appointment

**Grader.**

Name Lynsey Karen Parker  
Telephone 642-5563  
Meetings by appointment only

**Goals of the course.** To learn standard mathematical techniques for solving problems from physics.

**Approximate content of the course.** Review of linear algebra. Theory of functions of one complex variable. Differential equations. Fourier series. Laplace transform. Distributions (generalized functions). Fourier transform.

**Rough syllabus** (refers to sections from the textbook).

1.5, 1.6	Aug 30	2.5	Sep 27	4.1, 4.2	Oct 20	6.1	Nov 15
1.6	Sep 1	2.6	Sep 29	4.3	Oct 22	6.1, 6.2	Nov 17
1.1, 1.2	Sep 3	2.7	Oct 1	4.4	Oct 25	6.3	Nov 19
1.2	Sep 8	2.7	Oct 4	4.5	Oct 27	6.4	Nov 22
2.1	Sep 10	2.8	Oct 6	5.1	Oct 29	6.5, 6.7	Nov 24
2.1	Sep 13	3.1, 3.2	Oct 8	5.2	Nov 1	7.1, 7.2	Nov 27
2.2	Sep 15	3.3	Oct 11	5.3	Nov 3	3.3	Oct 11
2.2	Sep 17	3.3	Oct 13	5.4	Nov 5	3.3	Oct 13
2.3	Sep 20	3.4	Oct 15	5.5	Nov 8	3.4	Oct 15
2.3	Sep 22	3.5	Oct 18	5.6	Nov 10	7.7	Dec 8
2.4	Sep 24			5.7	Nov 12		

Tentative midterm dates: Oct 8, Nov 3.

**Books.** MATHEMATICS FOR PHYSICISTS by Susan M. Lea: Thomson Brooks/Cole, 2004 is the textbook for the course; for extra reading, consult other books listed on the course website.

**Homework and grading.** Weekly homework of up to 10-12 problems will be assigned and graded by the grader. Some of homework problems require minimal programming in MATLAB. Exams will be graded by the instructor. Final grade will be based on homework (30%), two midterms (20% each) and a final (30%).

**Class email.** I welcome communication by email and intend to send homework-related email to the class.

**Class website.** <http://www.cs.berkeley.edu/~oholtz/121A/>