Physics 373 – Mathematical Methods for Physics II
Syllabus for Fall 2017

Course description The second of a two-semester series in mathematical methods for physics. The course is a continuation of PHYS 274, and covers Ordinary Differential Equations, Power Series Solution of Differential Equations, Partial Differential Equations, and Complex Analysis.

Prerequisite PHYS 273 and PHYS 274 (or equivalent)

Instructor
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The syllabus and schedule can be also found at:
http://www.physics.umd.edu/courses/Phys373/index.html

Books
- Mary L. Boas, *Mathematical Methods in the Physical Sciences*, 3rd edition (required)
- Roel Snieder, *A Guided Tour of Mathematical Methods for the Physical Sciences* (recommended)

Lectures **Physics 1201, TuTh 11:00 am – 12:15 pm**
Students are required to attend lectures, where the course material will be presented and homework assignments and exams will be announced, given and collected. Students are responsible for reading and understanding all material in assigned chapters, whether or not this material is explicitly treated in the lectures.

Homework Homework assignments will be assigned in class on **Thursdays** (and posted on ELMS) and should be handed in class by the **following week Thursdays**. Solution keys will be posted on ELMS.

Late homework is accepted only in exceptional circumstances (i.e. illness, a religious observance, or some other compelling reason). If you do not have a valid excuse, you can still turn in late homework with penalty.

Exams

There will be **two** mid-term exams and **one** final exam. All exams are closed book. The exam sheets will contain all useful formulae that you will need. Exams must be taken on the scheduled days unless you have a valid excuse. Make-up exams will be given only under extraordinary circumstances (medical problem, religious holiday, or serious family crisis).

Grade

The final grade will be based on the components below.

Homework	20%
1st mid-term exam	25%
2nd mid-term exam	25%
Final exam	30%

The final grade will be set at the end of the semester after all work is completed. The final grade will be determined by the University of Maryland grading policy.

Tutoring and Help

Your instructor and TA have office hours, both scheduled and by appointment, and are happy to help you outside of class. Don't be shy! We really are happy to work with you!

Course Evaluation

Your participation in the evaluation of courses through CourseEvalUM is a responsibility you hold as a student member of our academic community. Your feedback is confidential and important to the improvement of teaching and learning at the University as well as to the tenure and promotion process. You can go to the CourseEvalUM website (www.courseevalum.umd.edu) to evaluate the course.

University Closure

In the event of a University Closure the department will do its best to accommodate students by scheduling make-up sessions.

Students with disabilities

Students with disabilities should meet with the instructor at the beginning of the semester so that appropriate arrangements can be made to accommodate the student's needs.

Academic Integrity

You must work by yourself on exams and homework. You are allowed to work with other students, your TA and your instructor on your homework. However, you should not just directly copy from them. Doing so is not only dishonest, but will hurt your ability to do the problems on the exams.

Tentative Course Schedule

Physics 1201, TuTh 11:00 am – 12:15 pm

Week	Dates	Lecture Topic	Chapter/Section in Boas	Homework due Thu 11:00am
1	Aug 29	(I) Ordinary Differential Equations	8.1, 8.2	
	Aug 31		8.3, 8.4	
2	Sep 5		8.5	
	Sep 7		8.6	HW 1
3	Sep 12		8.7	
	Sep 14	(II) Power Series Solutions of Differential Equations (Legendre & Bessel); Special Functions (factorial & Gamma functions)	12.1, 12.2	HW 2
4	Sep 19		12.2, 12.3, 12.4	
	Sep 21		12.5	HW 3
5	Sep 26		12.7, 12.8, 12.9	
	Sep 28		12.10, 11. 1-4	HW 4
6	Oct 3		12.12	
	Oct 5	**Exam Review**		HW 5
7	Oct 10	(II) continue	12.13-16, 12.19	
	Oct 12	**Exam I**	**8, 11, 12**	
8	Oct 17	(III) Partial Differential Equations; Fourier series	13.1, 7.8, 7.9	
	Oct 19		13.2	HW 6
9	Oct 24		13.3	
	Oct 26		13.6	HW 7
10	Oct 31		13.7	
	Nov 2	(IV) Complex Analysis	14.1, 14.2	HW 8
11	Nov 7		14.2, 14.3	
	Nov 9		14.4, 14.5	HW 9
12	Nov 14		14.6	
	Nov 16		14.7	
13	Nov 21		14.7	HW 10
	Nov 23	**Thanksgiving Recess**		
14	Nov 28	**Exam Review**		
	Nov 30	**Exam II**	**12 (Bessel), 13, 14**	
15	Dec 5	(IV) Complex Analysis	14.8	
	Dec 7	**Final Exam Review**		HW 11
16	**Dec 13, 8-10 am**	**Final Exam**	All of the above	