

# PHY 506 Fall 2009

1.) Lecture: Prof. Bing An Li, email: [li@pa.uky.edu](mailto:li@pa.uky.edu), Location: Room CP 397  
MWF 1:00p.m.-1:50p.m.

2.) Textbook: Mathematical Methods for Physicists, 6<sup>th</sup> edition, by Arfken and Weber.

3.) Prereq: PHY 404G or equivalent

4.) Office Hours: MW 2:00-3:00 p.m. or by appt. in room CP 395.

5.) Goals of this course:

This course provides necessary math for advanced physics courses. Vector Analysis (Ch.1); Vector analysis in curved coordinates and tensors (Ch.2); Determinants and Matrices (Ch.3); Infinite Series (Ch.5); Fourier Series (Ch.14); Fourier Transformations (Ch. 15).

6.) No quizzes. HW will be assigned every Friday and due the following Friday. Late HW won't be accepted.

7.) There will be 4 tests.

8.) Grades:

HW	100 points
4 Tests	400 points

A: 80% and above; B: 65% - 79%

If you miss a test a score of "0" should be expected, unless an acceptable written letter is received one week before the test.

## Syllabus

W 8/26	Ch.1	
F 8/28	Ch.1	HW: 1.2.1; 1.2.2
M 8/31	Ch. 1	
W 9/2	Ch.1	

F 9/4	Ch.1	HW: 1.3.3, 1.3.4, 1.4.3, 1.4.10, 1.5.4, 1.5.6
M 9/7	HOLIDAY	
W 9/9	Ch. 1	
F 9/11	Ch.1	HW: 1.6.4, 1.7.6, 1.8.5, 1.8.8, 1.9.1, 1.9.9
M 9/14	Ch. 2	
W 9/16	Ch. 2	
F 9/18	Ch. 2	HW: 1.11.2, 1.11.3, 1.12.1, 1.12.2, 2.1.2, 2.2.3
M 9/21	TEST 1	
W 9/23	Ch.2	
F 9/25	Ch. 2	HW: 2.4.4, 2.4.5, 2.5.2, 2.5.3, 2.6.2
M 9/28	Ch.3	
W 9/30	Ch. 3	
F 10/2	Ch.3	HW: 3.1.1, 3.1.2, 3.2.5, 3.2.9, 2.2.12
M 10/5	Ch.3	
W 10/7	Ch.3	
F 10/9	TEST 2	
M 10/12	Ch. 5	

W 10/14	Ch. 5	
F 10/16	Ch. 5	HW: 3.4.1, 3.4.11, 3.4.12, 3.5.5, 3.5.7
M 10/19	Ch. 5	
W 10/21	Ch. 5	
F 10/23	Ch. 5	HW: 5.1.1, 5.2.7(a), 5.3.2, 5.4.1 5.6.1
M 10/26	Ch.5	
W 10/28	Ch. 14	
F 10/30	TEST 3	
M 11/2	Ch. 14	
W 11/4	Ch. 14	
F 11/6	Ch. 14	HW: 14.1.2, 14.1.3, 14.1.5, 14.2.2, 14.3.2
M 11/9	Ch. 14	
W 11/11	Ch. 15	
F 11/13	Ch. 15	HW: 14.3.3, 14.3.5, 14.4.1, 14.4.4
M 11/16	Ch. 15	
W 11/18	Ch. 15	
F 11/20	Ch. 15	HW: 15.1.1, 15.1.4
M 11/23	Ch. 15	

W 11/25	THANKSGIVING BREAK	
F 11/27	THANKSGIVING BREAK	
M 11/30	Ch. 15	
W 12/2	Ch. 15	
F 12/4	Ch. 15	HW: 15.3.1, 15.3.3, 15.3.7
M 12/7	Ch. 15	
W 12/9	Ch. 15	
F 12/11	Ch. 15	HW: 15.4.1, 15.4.3
M 12/14	TEST 4	1-2 p.m. in room CP 397