

Physics 3150**Methods of Theoretical Physics****Spring 2009****Class Hours:** MWF 1 – 1:50 PM**Classroom:** MH2002**Text:** “*Mathematical Methods in the Physical Sciences*” by Mary L. Boas, 3rd edition (2006) (Wiley)**Instructor:** Professor Jacques G. Amar**Grading:****Office:** MH5006

Homework 25%

Office hours: MWF 3-4 PM

First Exam 25%

Office phone: 530-2259

Second Exam 25%

E-mail: jamar@physics.utoledo.edu

Final 25%

Recommended References: E. Butkov, *Mathematical Physics* (Addison-Wesley)Arfken & Weber, *Mathematical Methods for Physicists*

Week Of:	Topics	Reading
Jan. 12	Infinite Series, Power Series	1.1 – 1.11
Jan. 19	Complex Numbers	2.1-2.14, 2.16
Jan. 26	2 nd order diff. equations	8.5 – 8.6
Feb. 2	Matrices & Linear Equations	3.1-3.3
Feb. 9	Eigenvectors, Similarity Transforms	3.9-3.12
Feb. 16	Vector Analysis, Laplacian	6.1–6.3, 6.7,6.10-6.11
Feb. 23	Vector Identities and Curvilinear Coordinates	6.11, 10.8-10.9
Mar. 2	Exam 1	
Mar. 9	Spring Break	
Mar. 16	Complex Variables & Definite Integrals	14.1-14.7
Mar. 23	Fourier Series	Ch. 7
Mar. 30	Fourier Series	Ch. 7
April 6	Fourier Transform, Dirac Delta Function	Ch. 7
April 13	Exam 2	
April 20	Partial Differential Equations I	13.2 –13.4
April 27	Partial Differential Equations II	
May 6	Final Exam	