PHY 7110 **Methods of Theoretical Physics 2** **Fall 2013** **Sean Gavin**

office: Room 320 Physics Research Bldg.
phone: 313-577-0156
email: sean@physics.wayne.edu

TEXT: *Mathematical Methods for Physics*, by H.W. Wyld, 2nd Edition, ISBN-10: 0738201251, | ISBN-13: 978-0738201252
Schaum's Mathematical Handbook of Formulas and Tables, 4th Edition, ISBN-10: 0071795375,ISBN-13: 978-0071795371

SUPPLEMENTS: Lower level: *Mathematical Methods in the Physical Sciences,* Boas
Encyclopedic: *Mathematical Methods for Physics and Engineering: a Comprehensive Guide*, by Riley, Hobson and Bence; *Mathematical Methods*, Arfken
Higher level: *Mathematics for Physics*, Stone and Goldbart

OFFICE HOURS: Monday 3-4 PM or after class

HOMEWORK: Every 1-2 weeks. **Late homework will not be accepted.** The lowest homework will be dropped.

GRADES: There will be two midterm exams and one final. **Dates of the exams may change if the class departs from the expected schedule. Changes will be announced in class.**

Homework	40%
Midterm Exams	40%
Final Exam	20%

FINAL EXAM: **Friday, December 13, 2013, 8:00a.m. – 10:30a.m**

Week of	Chapter	Comments
8/28	1	Partial Differential Equations
9/2	1	No class Monday, 9/2 Partial Differential Equations
9/9	2	Separation of Variables and Ordinary Differential Equations
9/16	2	Eigenfunctions, Sturm-Liouville Equations
9/23	3	Special functions
9/30	4	Bessel Functions and Applications
10/7	5	Normal Mode Eigenvalue Problems Exam on Chapters 1-4
10/14	5,6	Spherical Bessel Functions and Applications
10/21	6,8	Green Functions
10/28	8	Green Functions
11/4	10	Complex variables Exam on Chapters 5,6, and 8
11/11	11	Application of Complex variables
11/18	11,12	Application of Complex variables
11/25	13	Monday only – Thanksgiving holiday
12/2	14	Applications of Complex Variables
12/9	review	Monday only