

## METEO 535: Radiative Transfer; 103 Walker Building; MWF 9:05-9:55 AM

<b>Instructor:</b>	Eugene Clothiaux (Clō-t-ō)	<b>Teaching Assistant:</b>	Not Applicable
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<b>Office Hours:</b>	MWF 10:00A - 11:00A By Appointment, When Door is Open (Catch me when you can!)		

### Exams and Homework Percent Date and Time

1 <sup>st</sup> Exam	15%	October 5, 2005
2 <sup>nd</sup> Exam	15%	November 14, 2005
Final Exam	30%	Yet to be scheduled
Homework	40%	Every 1 to 2 Weeks

I will need help grading homework. So, each student will assist with the grading for one, and only one, homework assignment.

### Course Academic Integrity Policy:

*EMS Academic Integrity Statement:*

<http://www.ems.psu.edu/students/integrity/index.html>

*Academic Integrity Policies Specific to Course:*

I strongly recommend that you do the homework by yourself; however, this is not a course requirement. Discussing homework with others is permitted, but copying answers from others is not.

Exam problems (in and out of class) are to be done by oneself.

### Class Reading Material (Required)

Author	Title
C.F. Bohren and E.E. Clothiaux	<i>Fundamentals of Atmospheric Radiation</i>

### Class Reading Material (On Reserve in EMS Library)

Author	Title
C.F. Bohren	<i>Clouds in a Glass of Beer</i>
C.F. Bohren	<i>What Light Through Yonder Window Breaks?</i>
C.F. Bohren	<i>Absorption and Scattering of Light by Small Particles</i>
K.N. Liou	<i>An Introduction to Atmospheric Radiation</i>
R.M. Goody and Y.L. Yung	<i>Atmospheric Radiation</i>
G.L. Stephens	<i>Remote Sensing of the Lower Atmosphere</i>
G.E. Thomas and K. Stamnes	<i>Radiative Transfer in the Atmosphere and Ocean</i>
M.L. Salby	<i>Fundamentals of Atmospheric Physics</i>
R.G. Fleagle and J.A. Businger	<i>An Introduction to Atmospheric Physics</i>
J.M. Wallace and P.V. Hobbs	<i>Atmospheric Science: An Introductory Survey</i>

### Course Outline

1. Basics of Radiative Transfer
2. Some Observable Consequences of Radiative Transfer
3. Remote Sensing

- 3.1. Ground-based Remote Sensing
- 3.2. Satellite-based Remote Sensing
4. Atmospheric Heating Rates
5. Some Climate Issues