

**Tentative Syllabus for
Cloud and Precipitation Physics: Metr 5233
Fall Semester 2010**

Professor:

Jerry M. Straka
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Class Time/Room:

MWF at 12:00PM-12:50PM (Rm 5720)

Office Hours:

Wednesday 1:00PM-3:00PM (subject to change)
Other office hours can be had by appointment (24 hour notice) on almost any day.

Handouts:

Syllabus

Homeworks and Exams:

Six homeworks

Homework Checked but not graded (handed out and returned on Fridays)

Two regular exams

Test 1 33.3%

Test 2 33.3%

Comprehensive Final exam

Final Exam 33.3%

Grades:

A 90-100

B 80-89

C 70-79

D 60-69

F 0-59

Books:

Mandatory: A Short Course in Cloud Physics 3rd ed.: Rogers and Yau (1989)

Recommended: Cloud and Precipitation Microphysics: Principles and
parameterizations: Straka (2009) (Try an online book store)

Optional: Microphysics of clouds and precipitation: Pruppacher and Klett
(1997) (Try an online book store)

Mandatory Work:

Read each assigned chapter(s) in the selected book(s) and/or handout(s) listed on the weekly planner PRIOR to each lecture Section. The weeks of these are indicated in the tentative reading list for the semester on the following page. You are expected to come to class well prepared to discuss what you have read and answer questions I might ask during lecture. I tend to teach by asking lots of questions. I also expect you to hone your skills at teaching yourself.

Homework Policy:

Hand in your homework when due for it to be checked. Failure to do so will result in an unchecked homework.

Accommodations:

Any student in this course who has a disability that prevents them from fully participating and demonstrating their abilities should contact me personally, as soon as practically possible, so we can discuss accommodations necessary to ensure full participation and facilitate educational opportunities. You must be prepared to bring documentation from the office of disability services (325-3852).

Academic Misconduct:

All cases will follow the university guidelines on academic misconduct on the university web pages: <http://www.ou.edu/provost/pronew/content/integritymenu.html>

Religious Holidays

"It is the policy of the University to excuse the absences of students that result from religious observances and to provide without penalty for the rescheduling of examinations and additional required classwork that may fall on religious holidays."

Class Attendance

"Students are responsible for the content of courses in which they are enrolled. Specific policy concerning attendance requirements and announced and unannounced examinations is the responsibility of the individual instructor. Students have a responsibility to inform faculty prior to absences whenever possible. Faculty should make every effort to find a reasonable accommodation for students who miss class as a result of participation in Provost-approved University-sponsored activities or legally required activities such as emergency military service. Students missing class on account of jury duty must receive such an accommodation."

Questions about the course:

If you ever have questions about the course or suggestions please notify me during office hours.

Tentative Reading Assignments, Written Assignments, Lectures, and Homeworks

Week 01:

Reading for week: RY Ch 1 Thermodynamics of dry air
Lectures: Introduction to Class, Overview of course, RY Ch 1
Hw: Hand out Hw 1

Week 02:

Reading for week: RY Ch 2 Water vapor and its thermodynamic effects
Lectures: RY Ch 1, 2
Hw: Hand in Hw 1

Week 03:

Reading for week: Pruppacher and Klett (1984) Equilibrium equation
Lectures: Pruppacher and Klett (1984) Equilibrium equation
Hw: Hand out Hw 2

Week 04:

Reading for week: RY Ch 3 Parcel buoyancy and atmospheric stability
RY Ch 4 Mixing and Convection
Lectures: RY Ch 3,4
Hw: Hand in Hw 2

Week 05:

Reading for week: RY Ch 5 Observed Properties of clouds
Lectures: RY Ch 5
Hw: Hand out Hw 3

Week 06:

Reading for week: RY Ch 6 Formation of cloud drops
Lectures: RY Ch 6
Hw: Hand in Hw 3

Week 07:

Reading for week: Test Week
Lectures: Review Mon, Test II Wed, Hand back and go over test Fri
Hw: None

Week 08:

Reading for week: RY Ch 7 Droplet growth by vapor diffusion
Lectures: RY Ch 7
Hw: Hand out Hw 4

Week 09:

Reading for week: RY Ch 8 Initiation of rain in nonfreezing clouds

Lectures: RY Ch 8

Hw: Hand in Hw 4

Week 10:

Reading for week: RY Ch 9 Formation and growth of ice crystals

Lectures: RY Ch 9

Hw: Hand out Hw 5

Week 11:

Reading for week: RY Ch 10 Rain and snow (also graupel—not in book), TBA

Lectures: RY Ch 10

Hw: Hand in Hw 5

Week 12:

Reading for week: TBA

Lectures: Freezing of liquid and melting of ice

Hw: Hand out Hw 6

Week 13:

Reading for week: RY Ch 12 Hail

Lectures: RY Ch 12 Hail

Hw: Hand in Hw 6

Week 14:

Thanksgiving vacation

Reading for week: RY Ch 12 more on Hail

Lectures: RY Ch 12 more on Hail

Hw: none

Week 15:

Reading for week: Test Week

Lectures: Review Mon, Test II Wed, Hand back and go over test Fri

Hw: None

Week 16:

Reading for week: None

Lectures: Putting it all together: Review final

Hw: None

Week 17:

Two Hour Comprehensive Final Exam in classroom