

Syllabus for Cloud and Precipitation Physics: Metr 5233 Fall Semester 2008

Professor:

Jerry M. Straka
Rm NWC 5331
Phone 325-5503

Class Time:

MWF at 12:00-12:50PM

Office Hours:

W 2:00PM-4:00PM

Other office hours can be had by appointment (24 h notice) on almost any day.

Handouts:

Syllabus

Homeworks and Exams:

Six home works

The lowest score of six homeworks will be dropped (must do all homeworks).

Two regular exams

Final exam

Test 1	25%	
Test 2	25%	
Homework	25%	(best five of six homeworks)
Final Exam	25%	

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)

Optional: Microphysics of clouds and precipitation: Pruppacher and Klett (1997)

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 dates 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.

Homework Policy:

Homework is due on the day assigned. For each day your assignment is late 20 points are deducted.

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: Aug 25, 27, 29

Reading for week: RY Ch 1 Thermodynamics of dry air
Lectures: Introduction to Class, RY Ch 1
Hw: Hand out Hw 1 (Aug 27)

Week 02: Sep 3, 5

(no class on Sep 1, Labor day)
Reading for week: RY Ch 2 Water vapor and its thermodynamic effects
Lectures: RY Ch 2
Hw: Hand in Hw 1 (Sep 5)

Week 03: Sep 8, 10, 12

Reading for week: PK Equilibrium equation

Lectures: PK Equilibrium equation
Hw: Hand out Hw 2 (Sep 8)

Week 04: Sep 15, 17, 19

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 (Sep 19)

Week 05: Sep 22, 24, 26

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

Week 06: Sep 29, Oct 1, 3

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

Week 07: Oct 6, 8 (no class on Oct 10, School holiday)

Reading for week: Test Week
Lectures: Review 6th, Test I on 8th (return test on 15th)
Hw: None

Week 08: Oct 13, 15, 17

Reading for week: RY Ch 7 Droplet growth by vapor diffusion
Lectures: RY Ch 7
Hw: Hand out Hw 4 (Oct 13)

Week 09: Oct 20, 22, 24

Reading for week: RY Ch 8 Initiation of rain in nonfreezing clouds
Lectures: RY Ch 8
Hw: Hand in Hw 4 (Oct 24)

Week 10: Oct 27, 29, 31

Reading for week: RY Ch 9 Formation and growth of ice crystals
 Lectures: RY Ch 9
 Hw: Hand out Hw 5 (Oct 27)

Week 11: Nov 3, 5, 7
 Reading for week: RY Ch 10 Rain and snow (also graupel—not in book), TBA
 Lectures: RY Ch 10
 Hw: Hand in Hw 5 (Nov 7)

Week 12: Nov 10, 12, 14
 Reading for week: TBA
 Lectures: Freezing of liquid and melting of ice
 Hw: Hand out Hw 6 (Nov 17)

Week 13: Nov 17, 19, 21
 Reading for week: RY Ch 12 Hail
 Lectures: RY Ch 12 Hail
 Hw: Hand in Hw 6 (Nov 21)

Week 14: Nov 24 (26, 28 Thanksgiving vacation)
 Reading for week: RY Ch 12 more on Hail
 Lectures: RY Ch 12 more on Hail
 Hw: none

Week 15: Dec 1, 3, 5
 Reading for week: Test Week
 Lectures: Review 1st, Test II on 3rd, Hand back and go over test 5th.
 Hw: None

Week 16: Dec 8, 10, 12
 Reading for week: None
 Lectures: Putting it all together (Dec 8th and Dec 10th), Review final (12th)
 Hw: None

Week 17: (no class on Dec 15,17) Dec 19
 Two Hour Comprehensive Final Exam on Dec 19 in classroom