Physical Meteorology II
Cloud Physics, Atmospheric Electricity, and Atmospheric Optics

1. **Instructor:** David B. Mechem, 325-6103, dmechem@ou.edu, SEC 1154

2. **Class web site:** [http://cimms.ou.edu/~dmechem/metr3223](http://cimms.ou.edu/~dmechem/metr3223)

3. **Class time and place:** Monday, Wednesday, and Friday 8:30-9:20 in SEC A235.


5. **Office hours:** Tuesday and Thursday 9:00-10:00 or by appointment.

6. **Prerequisites:** C or better in METR 2103 (Physical Mechanics), METR 3123 (Physical Meteorology I), and MATH 3113 (Ordinary Differential Equations).

7. **Grading and tentative schedule:**
   - 40% Best two of three hourly exams 2/13, 3/26, 4/23
   - 30% Best seven of eight problem sets 1/23, 1/30, 2/6, 2/27, 3/5, 3/12, 4/9, 4/16
   - 30% Comprehensive final exam on 5/7 (Friday) 10:30-12:30

8. **Holidays and other significant dates:** 1/19 (Martin Luther King, Jr. Day), 3/15-3/19 (Spring Break). I anticipate being absent on 3/24, 3/26, and 3/29. Class will be held on these days.

9. **Topics of study (not exhaustive):**
   - Cloud physics: Review of thermodynamic fundamentals, aerosol and nucleation, condensational growth, coalescence, ice physics, precipitation processes, basic radar principles
   - E&M: Development of Maxwell’s equations, electromagnetic waves, propagation and refractivity, thunderstorm charging physics, lightning
   - Atmospheric optics: Spectra, scattering, refraction, optical phenomenon

10. **Academic integrity.** Students should be familiar with the statement on academic integrity posted at [http://www.ou.edu/provost/integrity](http://www.ou.edu/provost/integrity).

11. **Accommodation policy:** “The University of The University of Oklahoma is committed to providing reasonable accommodation for all students with disabilities. Students with disabilities who require accommodations in this course are requested to speak with the professor as early in the semester as possible. Students with disabilities must be registered with the Office of Disability Services prior to receiving accommodations in this course. The Office of Disability Services is located in Goddard Health Center, Suite166, phone 405/325-3852 or TDD only 405/325-4173.”