Atmos 5210/6210:
Synoptic Meteorology II
Course Overview

Jim Steenburgh
Department of Atmospheric Sciences
University of Utah
jim.steenburgh@utah.edu
801-581-8727
488 INSCC (In Suite 480)

Introductions

- Name
- Where you are from
- Major/Academic Year
- Share a great winter weather anecdote

Learning Objectives

- At the end of this course, you should be able to:
  - Describe and identify the three dimensional structure of surface-based and upper-level fronts
  - Apply the frontogenesis function and frontogenesis diagnostics for for explaining observed or numerically forecast frontogenesis and frontolysis
  - Characterize and explain the global and regional distributions of precipitation and snowfall, including variations in complex terrain
  - Diagnose the dynamic, thermodynamic, and microphysical processes affecting cool-season precipitation in a variety of synoptic, mesoscale, and orographic settings.

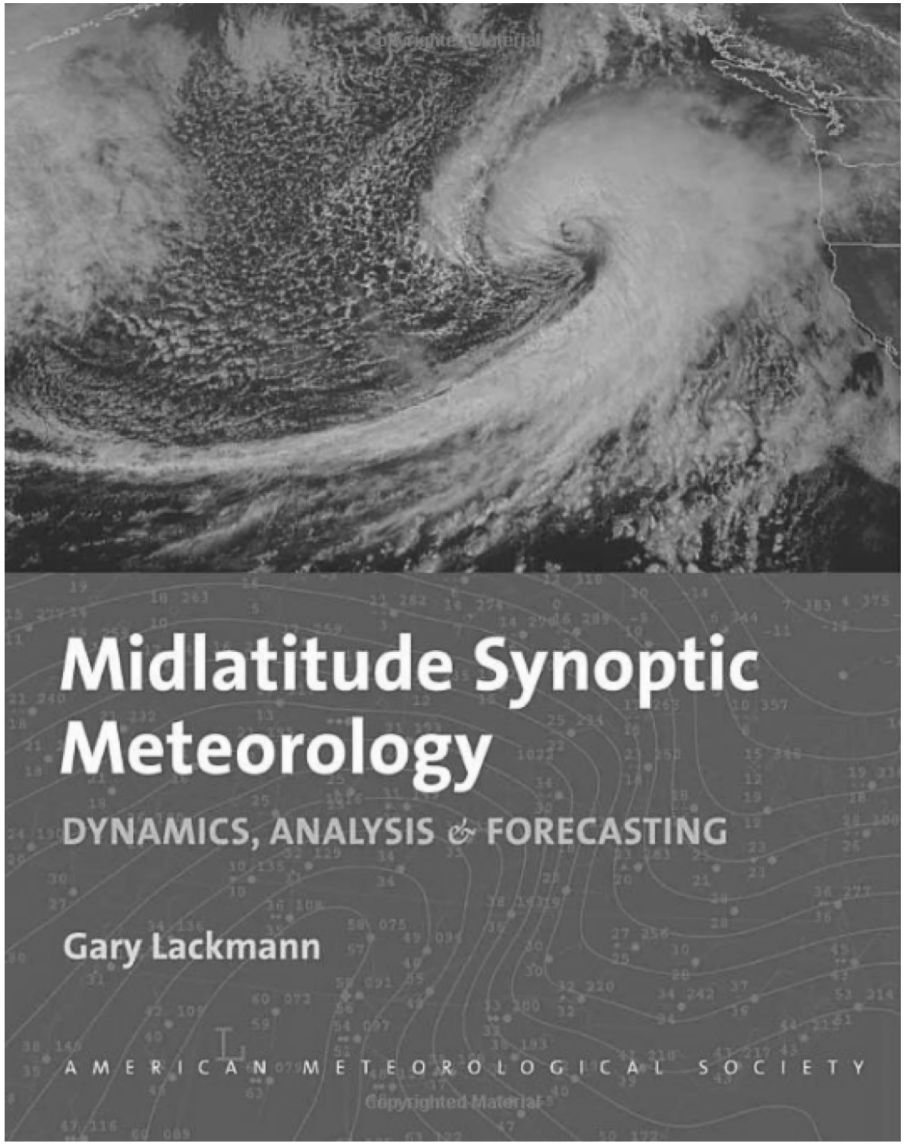
Format

- Two classes per week (10:45–12:05 TH)
  - 711 WBB
  - Mixture of lecture, real-time weather analysis and discussion, and active-learning activities

Schedule

- Fronts
- Precipitation systems and microphysical processes
- Global precipitation characteristics
- Winter-storm fundamentals
- Exam
- Extratropical cyclones
- Cold-air damming
- Atmospheric rivers
- Orographic precipitation
- Lake- and sea-effect precipitation
- Student presentations

Text and Materials



- *Midlatitude Synoptic Meteorology*
  - By Gary Lackmann
  - Recommended but not required
- Additional readings as assigned
- Online learning modules as assigned
- Course notes
- Students should complete reading and learning module assignments before class as outlined on course web page

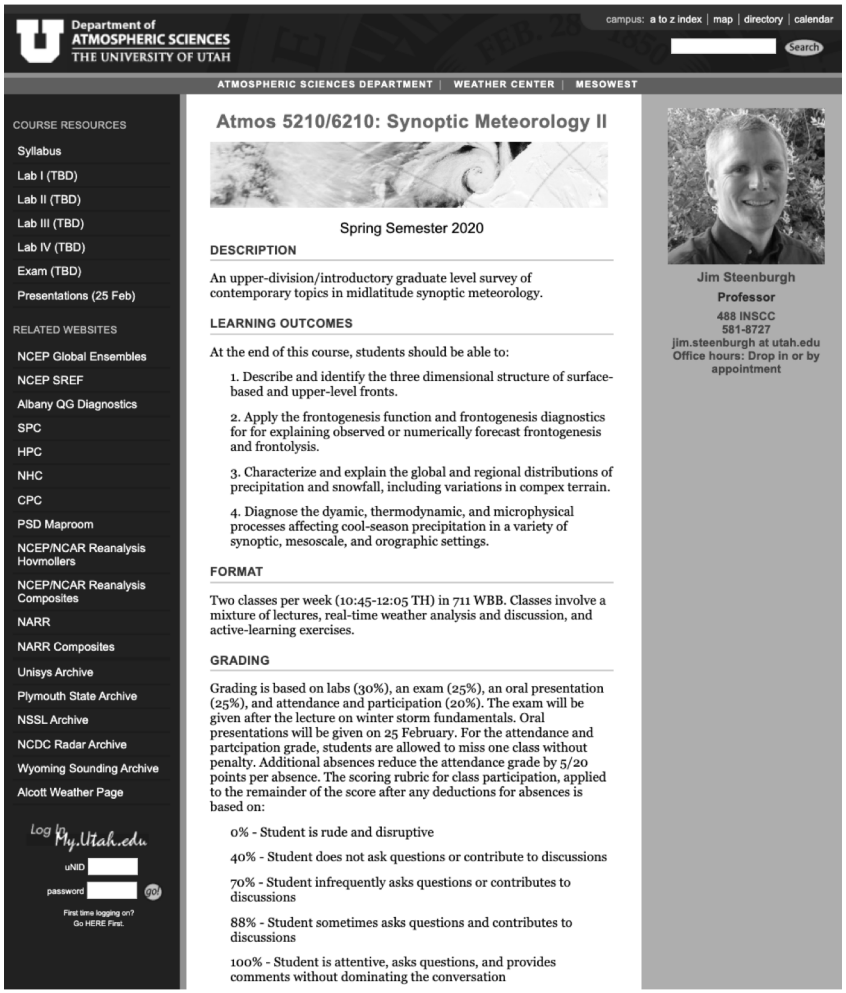
Grading

- 30% labs (probably 4)
- 25% exam
- 25% presentation
  - During 75 min class period on Feb 25
- 20% attendance and participation
- See online syllabus for gory details

Student Presentations

- Feb 25
- Pick a topic by 21 January in consultation with instructor
- See online syllabus for ideas

Course Web Page & Syllabus



http://www.inscc.utah.edu/~steenburgh/classes/5210/

Syllabus; links to labs, notes, and reading materials; schedule

ADA Accomodations

The University of Utah seeks to provide equal access to its programs, services, and activities for people with disabilities. If you will need accommodations in the class, reasonable prior notice needs to be given to the Center for Disability services, 162 Olpin Union Building, 581-5020 (V/TDD). CDS will work with you and the instructor to make arrangement for accommodations. All written information in this course can be made available in alternative format with prior notification to the Center for Disability Services.

U of U Counseling Services

Developmental, preventative, and therapeutic services addressing personal, career and academic learning issues

426 SSB

801-581-6826

24/7 Crisis Line: 801-587-3000

Campus Safety

Campus Police: 801-585-COPS (801-585-2677)

https://safeu.utah.edu