

MEA 444: (Mesoscale) Weather Analysis and Forecasting (II)
Spring Semester 2009

Tentative syllabus: Revised on 15 January

week	dates	topics
1	1/07–1/08	Introduction Definition of the mesoscale (M and R: 1) Radar and other mesoscale measurements (M and R: A)
2	1/12–1/15	Conclude radar and measurements (M and R: A) Review of basic equations (M and R: 2.1–2.4) Attend job interview seminars
3	1/20–1/22	<i>No Class Mon (MLK Jr. Day)</i> Buoyancy, parcel theory, and sounding analysis (M and R: 2.5, 2.7) The vertical wind profile and hodographs (M and R: 2.8) Basic techniques and tools for mesoscale forecasting
4	1/26–1/29	Mesoscale pressure perturbations (M and R: 2.6) Intro to convection and convective initiation (M and R: 6)
5	2/02–2/05	The convective environment (M and R: 7.1–7.2) Surface-based vs. elevated convection (M and R: 7.6) MIDTERM EXAM 1
6	2/09–2/12	Life cycles of ordinary cells (M and R: 7.3) Downdrafts, convective outflow, and density currents (M and R: 9.3) Multicells (M and R: 7.4)
7	2/16–2/19	Squall lines (M and R: 8.1–8.3)
8	2/23–2/26	Intro to supercells (M and R: 7.5) MIDTERM EXAM 2
–	3/02–3/05	<i>Spring Break—No Class</i>
9	3/09–3/12	Supercells (M and R: 7.5) Forecasting storm type
10	3/16–3/19	Tornadoes and tornadogenesis (M and R: 9.2) Tornado forecasting
11	3/23–3/26	Mesoscale convective systems (M and R: 8) Forecasting derechos, flash flooding, and severe hail (M and R: 9.3–9.5)
12	3/30–4/02	Climatology of severe convective weather (M and R: 6.1 and 9.1) MIDTERM EXAM 3
13	4/06–4/09	The boundary layer and its diurnal evolution (M and R: 3.1–3.5, 3.7) Drylines and other mesoscale boundaries (M and R: 4) Low-level jets (M and R: 3.8)
14	4/13–4/16	Mesoscale instabilities (M and R: 14)
15	4/20–4/23	Conclude mesoscale instabilities (M and R: 15) Review for final exam Semester project presentations
–	4/30	FINAL EXAM, 1–4 PM