

**Tentative Schedule ATS 421/521 Spring 2015**

**L: lectures**

**C: computer lab**

**D: discussion**

**HW: Homeworks due Mondays as noted in green**

<i>Week</i>	<i>Date</i>	<i>Topic</i>
1	Mo Mar 30	L01: Introduction, Brief History of Climate Modeling
	We Apr 1	L02: Components of Earth's Climate System, Global Energy Fluxes, The Zero-Dimensional (0D) Energy Balance Model (EBM), Ice-Albedo Feedback, Multiple Equilibria, Hysteresis
	Fr Apr 3	C01: Basic UNIX commands, Introduction to FORTRAN, work on HW1
	Fr Apr 3	D01: Hansen et al. (1981)
2	Mo Apr 6	L03: Radiative Forcing, Feedbacks, <b>HW1 due</b>
	We Apr 8	L04: Climate Sensitivity
	Fr Apr 10	C02: Introduction to FERRET and PCMDI, work on HW2
	Fr Apr 10	D02:
3	Mo Apr 13	L05: Stochastic Climate Models, Meridional Energy Transport, <b>HW2 due</b>
	We Apr 15	L06: The 1D Zonally Averaged EBM
	Fr Apr 17	C03: work on HW3
	Fr Apr 17	D03:
4	Mo Apr 20	L07: Numerics 1: Discretization, Boundary Conditions, Schemes for the Advection Equation <b>HW3 due</b>
	We Apr 22	L08: Numerics 2: von Neumann Stability Analysis, CFL Criterion, Schemes for the Diffusion Equation
	Fr Apr 24	C04: work on HW4
	Fr Apr 24	D04/L09: Radiative Convective Models, Manabe and Strickler (1964)
5	Mo Apr 27	L10: Hydrological Cycle, Hadley Cell (Held & Hou, 1980), <b>HW4 due</b>
	We Apr 29	L11: 2D EBM, General Circulation Models I
	Fr May 1	C05: Review
	Fr May 1	<b>Mid Term Exam</b>
6	Mo May 4	L12: General Circulation Models II ( <b>UVic Model Symposium</b> )

	We May 6	L13: Non-Linear Dynamics, Chaos (Lorenz 1963)
	Fr May 8	C06: work on HW5
	Fr May 8	D05/L14: Box Model of the Thermohaline Ocean Circulation (Stommel, 1961)
7	Mo May 11	L15: Ocean GCMs, <b>HW5 due</b>
	We May 13	L16: Sea Ice, Ice Sheets (Oerlemans, 1981)
	Fr May 15	C07: work on HW6
	Fr May 15	D06: Watson and Lovelock (1983)
8	Mo May 18	L16: Ice Sheets contd., Ocean Biogeochemical Models, <b>HW6 due</b>
	We May 20	L17: Dynamic Vegetation Models
	Fr May 24	C08: work on HW7
	Fr May 24	D07/L18: Carbon Cycle, Climate-Carbon Cycle Feedback (Friedlingstein et al., 2006), Ocean Biogeochemical Models
9	Mo May 25	<b>no class, Memorial Day Holiday</b>
	We May 27	L19: Ocean Biogeochemical Models contd. ( <b>EarthCube Meeting</b> )
	Fr May 29	C09: work on Project ( <b>EarthCube Meeting</b> )
	Fr May 29	L20: Regional Climate Models <b>Draft Papers due (EarthCube Meeting)</b>
10	Mo Jun 1	L21: Evaluation of Climate Models
	We Jun 3	L22: Future Projections
	Fr Jun 5	D10: Student Presentations <b>Papers due</b>
	Fr Jun 5	Review
11	TBD	Final Exam