MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
		WEEK 1		
9- INTRODUCTION TO PALEOCLIMATOLOGY - Cenozoic paleoclimates; isotope systematics; Milankovitch cycles 1- Excel exercises (Norton 303 from 1-2 and Cole Library 212 from 2-3) Read: Glacial World According to Wally: 163-185 HW: SPECMAP exercises	1- CLOCKS – methods (radiocarbon, U-series); suitable materials & stumbling blocks (diagenesis, initial $^{230}Th/^{232}Th$); precision (statistics) Read: Glacial World According to Wally: 123-162 HW: U-Th date spreadsheet; U-series dating exercise	1- PHYSICS- heat transfer, water vapor (Rayleigh distillation), thermohaline circulation, freshwater fluxes, mode switch triggers Read: Glacial World According to Wally: 241-270; Dansgaard (1964) HW: Rayleigh Distillation exer	1- SEA LEVEL-shore lines, moraines, oxygen isotopes 3 – 4: GUEST LECTURE – Jeff Dorale, University of Iowa Read: Glacial World According to Wally: 1-19; Gallup et al. (199?); Dorale et al. (2011) HW: none	1 – OCEAN MECHANICS – ventilation (carbonate concentration, pH, preservation effects); forcing of D-O and H-events Read: Glacial World According to Wally: 101-122 & 220-240; Edwards et al. (1993) HW: TBD
		WEEK 2		
1-OCEAN TEMPERATURES - sea surface paleothermometry (coral, planktic forams) via $\delta^{18}O$, Sr/Ca, Mg/Ca, alkenones, constraining salinity & ice volume Read: Glacial World According to Wally: 29-39; Beck et al. (1992) HW: SST exercise	1- CONTINENTAL TEMPERATURES – mid-latitude continental via speleothems, noble gases in groundwater, tree rings, pollen spectra, microvertebrates, pedogenic carbonates, soils; mountain-top, polar, tropical Read: ; Glacial World According to Wally: 19-28&40-51; Dansgaard (1993); Alley et al. (1997) HW: $\delta^{18}O$ & δD exercise	1- GUEST LECTURE: Justin Dodd and Leah Johnson (University of Northern Illinois) Read: Fawcett et al. (2011) HW: TBD	1- GUEST LECTURE: Alan Wanamaker (Iowa State University) Read: Bryden et al. (2005) HW: TBD	1 - ENSO; SOLAR VARIABILITY, sunspots, $\Delta^{14}C$ Read: Clement; Stuiver; Grootes HW: Dongge vs $\Delta^{14}C$
		WEEK 3		
1 – MONSOONS; continental effects; insolation; ITCZ; biological feedbacks; modeling studies Read: Wang et al (2001); Miller et al. (2005) HW: TBD	1 – ATMOSPHERIC GASES Read: Glacial World According to Wally: 62-77 HW: TBD	1 – THE LAST GLACIAL CYCLE – Terminations, H-events, D-O events, cycles, boundary conditions Read: Glacial World According to Wally: 186-219 HW: Modeling exercise	1- COLLABORATION WITH GANNES' CLASS: African monsoons and bird migrations Read: paper supplied by Gannes) HW: TBD	9-11: ONE-ON-ONE PROJECT CONFERENCES 1-3: ONE-ON-ONE PROJECT CONFERENCES Read: none HW: work on project and presentation
		WEEK 4		
9 -11: PRESENTATIONS 1-3: PRESENTATIONS Read: none HW: work on project write-up	1 – REVIEW SESSION; **Project report due**	9 – **FINAL EXAM**		

CLIMATES OF THE ICE AGE
SPRING 2012

Professor: Rhawn Denniston *Office*: 202 Norton *Phone*: x4306 *Office Hours*: 9:15-11:00 daily *Email:* RDenniston

Text and Readings: *The Glacial World According To Wally* by W.S. Broecker, as well as articles from the primary literature

Grading Scheme

10% Pop Quizzes 25% Final 20% HW 25% Research Project/Paper/Presentation 10% Discussion 10% Participation[1]

[1] Participation involves contributing in a *responsible, meaningful, thoughtful* way to lectures, discussions, etc. It also involves showing up to class on time and being prepared for the lecture by having reviewed the previous days' notes.

Cell Phones and Computers – Receiving or making a text or phone call during class hours may result in your immediate expulsion from the class. Computers may be used during lecture, but using them for reasons not directly related to the course material at hand will result in your expulsion from class. More than one of any of these infractions will result in a grade of F for the course.

Academic Honesty - Cornell College expects all members of the Cornell community to act with academic integrity. An important aspect of academic integrity is respecting the work of others. A student is expected to explicitly acknowledge ideas, claims, observations, or data of others, unless generally known. When a piece of work is submitted for credit, a student is asserting that the submission is her or his work unless there is a citation of a specific source. If there is no appropriate acknowledgement of sources, whether intended or not, this may constitute a violation of the College's requirement for honesty in academic work and may be treated as a case of academic dishonesty. The procedures regarding how the College deals with cases of academic dishonesty appear in The Compass, our student handbook, under the heading "Academic Policies – Honesty in Academic Work."

Students with Disabilities - Students who need accommodations for learning disabilities must provide documentation from a professional qualified to diagnose learning disabilities. For more information see cornellcollege.edu/disabilities/documentation/index.shtml. Students requesting services may schedule a meeting with the disabilities services coordinator as early as possible to discuss their needs and develop an individualized accommodation plan. Ideally, this meeting would take place well before the start of classes. At the beginning of each course, the student must notify the instructor within the first three days of the term of any accommodations needed for the duration of the course.