

EAS 1600

Fall 2011

Syllabus and Lecture Schedule

Tuesdays and Thursday 9:35 - 1055AM, CULC 152

Text: The Earth System, Kump, Kasting & Crane ISBN-13: 978-0-321-5779-3

Readings

| | | | |
|--|----------------------------|---|--------------|
| I. Introduction | | | |
| Lecture 1 | 8/21/2012 | Intro and Orientation PRS | Chap 1 |
| Lecture 2 | 8/23/2012 | Earth as a Changing Planet | |
| II. The Human Dimensions of Global Change | | | |
| Lecture 3 | 8/28/2012 | Land Use Change | Chap 1 |
| Lecture 4 | 8/30/2012 | Demography and Human Population | |
| III Earth as a System | | | |
| Lecture 5 | 9/4/2012 | Feedbacks and Equilibira | Chap 2 |
| Lecture 6 | 9/6/2012 | Daisyworld | |
| IV Global Energy Balance | | | |
| Lecture 7 | 9/11/2012 | Solar Radiation and Effective Temperature | Chap 3 |
| Lecture 8 | 9/13/2012 | Exam 1 | |
| V. The Atmosphere | | | |
| Lecture 9 | 9/18/2012 | The Greenhouse Effect | Chap 3 |
| Lecture 10 | 9/20/2012 | Ideal Gas Law Barometry | Chap 4 |
| Lecture 11 | 9/25/2012 | Atmosphereric Circulation I | |
| Lecture 12 | 9/27/2012 | Atmosphereric Circulation II | |
| Lecture 13 | 10/2/2012 | Hydrologic Cycle | |
| Lecture 14 | 10/4/2012 | Particles, Clouds, and Climate | |
| Lecture 15 | 10/9/2012 | Exam 2 | |
| VI The Oceans | | | |
| Lecture 16 | 10/11/2012 | Ocean Circulation | Chap 5 |
| Fall Recess | 10/16/2012 | | |
| Lecture 17 | 10/18/2012 | Ocean Effects on Climate | |
| Lecture 18 | 10/23/2012 | Nutrient Cycle and Ocean Productivity | |
| VII. The Solid Earth | | | |
| Lecture 19 | 10/25/2012 | Minerals and Rocks | Chap 7 |
| Lecture 20 | 10/30/2012 | Seismology and Earth Structure | |
| Lecture 21 | 11/1/2012 | Plate Tectonics I - From Hypothesis to Theory | |
| Lecture 22 | 11/6/2012 | Plate Tectonics II - When Plates Collide and Separate | |
| Lecture 23 | 11/8/2012 | Plate Tectonics III - The Global View | |
| Lecture 24 | 11/13/2012 | Exam 3 | |
| VIII The Biosphere | | | |
| Lecture 25 | 11/15/2012 | The Biosphere I: Metabolic Processes | Chap 9 |
| Lecture 26 | 11/20/2012 | The Biosphere II: Metabolic Processes (Cont'd) | |
| Thansksgiving | 11/22/2012 | Recess | |
| Lecture 27 | 11/27/2012 | The Biosphere III | |
| Lecture 28 | 11/29/2012 | Biogeochemical Cycles - Carbon | |
| IX Climate | | | |
| Lecture 29 | 12/4/2012 | Climate Variability | Chap 12 & 15 |
| Lecture 30 | 12/6/2012 | Global Warming | Chap 16 |
| Final Exam | 12/13/2012 8:00 - 10:50 AM | | |