

In Class Peer Review

Sample Syllabus/Outline -- Fall 2019

| Lect # | Day | Date | Topic | Chapter | Term Project | Instr | Homeworks |
|--|-----|----------|---|---------|---|-------|---|
| Part I: Processes and Reactions | | | | | | | |
| 1 | Tu | 8/27/19 | Course Introduction. Discuss homework and term paper. Tree of life. Metabolic pathways. Calculation of energy yields. | 1, 2 | | CN | Assign 1st mini-essay |
| 2 | Th | 8/29/19 | Atmospheric deposition, atmospheric models | 3 | | CN | |
| 3 | Tu | 9/3/19 | Rock weathering and soil development | 4 | | CN | 1st mini-essay due |
| 4 | Th | 9/5/19 | Photosynthesis and net primary production | 5 | | AW | Return graded 1st mini-essay; Assign 2nd mini-essay |
| 5 | Tu | 9/10/19 | Net primary production and global change | 5 | | AW | |
| 6 | Th | 9/12/19 | Nutrient cycling in land plants | 6 | | CN | 2nd mini-essay due; Assign peer reviewers |
| 7 | Tu | 9/17/19 | Peer Reviewer Discussion of mini-essays; Assign Extended Essay Topics; Review of Extended Essay Rubrics; Library research methods | - | Review of Electronic Library Research Methods | CN | Peer reviews due; Peer review Discussion of 2nd mini-essay in class; Assign Extended Essay Topics to students; BRIEF review of rubrics for Extended Essay |
| 8 | Th | 9/19/19 | Nutrient cycling in land vegetation and soils | 6 | | CN | |
| 9 | Tu | 9/24/19 | Cycling and biogeochemical transformations of N, P and S | 6 | | CN | 1st draft Extended Essay due; Assign peer reviewers |
| 10 | Th | 9/26/19 | Ecosystem mass balances and models of terrestrial nutrient cycling | 6 | | CN | |
| 11 | Tu | 10/1/19 | Lakes, primary production, budgets and cycling | 8 | | CN | |
| 12 | Th | 10/3/19 | Peer review of extended essays in class | - | Discuss Term Paper Topic mini-presentation & Outline Rubric | BG | Peer Review Discussion of essay drafts in class; Draft revision plans in class |
| 13 | Tu | 10/8/19 | Wetlands, and biogeochemical redox reactions in aquatic systems | 7 | | BG | Final draft Extended Essay due |
| 14 | Th | 10/10/19 | Wetlands, and biogeochemical redox reactions in aquatic systems | 7 | ***Term Paper Topic Due at the Beginning of Class*** | BG | |
| 15 | Tu | 10/15/19 | River transport and chemistry | 8 | ***Term Paper Topic mini-presentation*** (2 minute, 2 slide summary) | BG | Return Graded Extended Essay |
| 16 | Th | 10/17/19 | Estuarine and coastal ocean environments | 8 | | BG | |
| 17 | Tu | 10/22/19 | MID-TERM EXAM | | | (ALL) | |
| 18 | Th | 10/24/19 | Oceanic composition, circulation | 9 | *** Outline Due*** ***Assign Peer Reviewers*** | AW | |
| 19 | Tu | 10/29/19 | Global primary production and fate of net primary production in the ocean - Part I (plus Peer Review Discussions) | 9 | ***Peer reviews due*** ***Peer Reviewer Discussion of Outline in class*** ***Draft revision plans in class*** | AW | |
| 20 | Th | 10/31/19 | Global primary production and fate of net primary production in the ocean - Part II | 9 | | AW | |
| 21 | Tu | 11/5/19 | Carbon and nutrient cycling in the ocean | 9 | *** Final Outline Due *** | AW | |
| 22 | Th | 11/7/19 | Hydrothermal vents | 9 | | BG | |
| 23 | Tu | 11/12/19 | Oceanic sedimentary records | 9 | | BG | |
| 24 | Th | 11/14/19 | The Global Water Cycle | 10 | *** Outline Returned *** | BG | |
| Part II: Global Cycles | | | | | | | |
| 25 | Tu | 11/19/19 | The Global Sulfur and Mercury cycles | 13 | | BG | |
| 26 | Th | 11/21/19 | The Global Carbon cycle - I | 11 | | AW | |
| 27 | Tu | 11/26/19 | The Global Carbon cycle - II | 11 | *** First Draft and Revised Outline Due *** | AW | |
| 28 | Th | 11/28/19 | HOLIDAY: Thanksgiving (no class) | | | - | |
| 29 | Tu | 12/3/19 | The Global Phosphorus and Nitrogen cycles | 12 | *** First Drafts Returned*** | AW | |
| Student Presentations | | | | | | | |
| 30 | Th | 12/5/19 | Student Presentations-I | | *** Meet with Prof to Discuss Edits & Revision Plan (OUTSIDE CLASS TIME: optional)*** | (ALL) | |
| 31 | Tu | 12/10/19 | Student Presentations-II | | | (ALL) | |
| 32 | Th | 12/12/19 | Student Presentations-III, course evaluations | | *** Final Draft Due *** | (ALL) | |

Tu 12/17/19 FINAL EXAM: 12:00 - 2:00 (ALL)

Class: Tuesday & Thursday, 12:00 - 1:15 pm, MSB 307

Instructors: Brian Glazer, Craig Nelson, Angelique White

Office Hours: by appointment

Required Text: Biogeochemistry: An Analysis of Global Change, (3rd Edition) by W. H. Schelsinger and Emily S. Bernhardt

Final grade = Mid-term exam (25%); final exam (25%); class project (term paper, oral presentation) (30%); homework assignments and class participation (20%)

OCN 401 - Student Learning Outcomes: Upon successful completion of the course, students are expected to be able to:

- 1) Explain the underlying principles of biogeochemical cycling in aquatic and terrestrial systems.
- 2) Identify the major global pathways of bioactive elements, and the ways human activities affect these pathways.
- 3) Use written and oral communication to clearly explain biogeochemical phenomena and related contemporary research.
- 4) Achieve facility using electronic resources to develop a bibliography of primary literature in a research area.