

GEOGRAPHY 127
Physical Systems of the Environment
Fall 2003

INSTRUCTORS: Jim Burt, 425 Science Hall (first half of the semester)
Jim Knox, 234 Science Hall (second half of the semester)

REQUIREMENTS: Lecture 3 hours per week and Laboratory 2 hours per week. Lab exercises involve analysis and interpretation of environmental data, including experimental, numerical, and cartographic methods. Attendance in the laboratory and a passing laboratory grade are necessary to pass the course. The lab syllabus provides specifics on lab requirements.

CREDITS: 5 credits in physical science.

TEXT/SUPPLEMENTS:

- *Physical Geography: Science and Systems of the Human Environment, 2nd Edition*, by A. Strahler and A. Strahler, Wiley, 2002.
- *Physical Systems of the Environment Workbook, 13th ed.*, by J. Burt, J. Knox, and T. Vale.
- GEOG 127 WWW home page, <http://www.geography.wisc.edu/classes/geog127/index.html>

EXAMINATIONS: Four 50-minute examinations will be given at roughly 4-week intervals. The last exam will be on the last day of instruction. Each exam will stress the material covered since the previous exam.

GRADING: The final grade will be determined from a curve of cumulative points achieved on the class examinations, and the laboratory quizzes and assignments. Each class exam will be worth approximately 40 points and the laboratory grade will count up to 80 points. The potential total number of points for the course is about 240.

TENTATIVE LECTURE TOPICS:

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| Week 1 | W | Sep | 3 | 1) Introduction and Fundamentals, Chapters 1,2 & 3 |
| | F | | 5 | 2) Atmospheric Structure, Earth-Sun Relations, Chapter 3 |
| Week 2 | M | | 8 | 3) Solar and Terrestrial Radiation, Chapter 4 |
| | W | | 10 | 4) The Global Energy Balance, Chapter 4 |
| | F | | 12 | 5) Thermal Environments, Chapter 5 |
| Week 3 | M | | 15 | 6) Atmospheric Moisture—Measures, Chapter 6 |
| | W | | 17 | 7) Atmospheric Moisture—Lifting and Precipitation, Chapter 6 |
| | F | | 19 | 8) Atmospheric Forces and Motion I, Chapter 7 |
| Week 4 | M | | 22 | 9) Atmospheric Forces and Motion II, Chapter 7 |
| | W | | 24 | 10) General Circulation of the Atmospheric and Ocean, Chapter 7 |
| | F | | 26 | 11) *** FIRST EXAM *** |
| Week 5 | M | | 29 | 12) Midlatitude Circulation I—Air Masses and Fronts, Chapters 7 & 8 |
| | W | Oct | 1 | 13) Midlatitude Circulation II—Cyclones and Cyclogenesis, Chapter 8 |
| | F | | 3 | 14) Tropical Systems, Chapter 8 |
| Week 6 | M | | 6 | 15) Global and Regional Climatic Classification, Chapter 9 |
| | W | | 8 | 16) Global and Regional Climatic Patterns I, Chapters 9 & 10 |
| | F | | 10 | 17) Global Climate Change |
| Week 7 | M | | 13 | 18) Vegetation and Environmental Relationships I, Chapters 22 & 23 |
| | W | | 15 | 19) Vegetation and Environmental Relationships II, Chapter 24 |

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| | F | Oct | 17 | 20) Catchup and Review |
| Week 8 | M | | 20 | 21) *** SECOND EXAM *** |
| | W | | 22 | 22) Soil Systems & Soil Forming Environments, Chapter 21 |
| | F | | 24 | 23) Soil Systems & Soil Forming Environments, Chapter 21 |
| Week 9 | M | | 27 | 24) Soil Systems & Soil Forming Environments, Chapter 21 |
| | W | | 29 | 25) Soil Systems & Soil Forming Environments, Chapter 21 |
| | F | | 31 | 26) Earth Materials and the Cycle of Rock Change, Chapter 12 |
| Week 10 | M | Nov | 3 | 27) Earth Materials and the Cycle of Rock Change, Chapter 12 |
| | W | | 5 | 28) Earth Materials and the Cycle of Rock Change, Chapter 12 |
| | F | | 7 | 29) The Lithosphere and Tectonic Systems, Chapters 13 |
| Week 11 | M | | 10 | 30) The Lithosphere and Tectonic Systems, Chapters 13 |
| | W | | 12 | 31) Volcanic and Earthquake Activity, Chapter 14 |
| | F | | 14 | 32) Volcanic and Earthquake Activity, Chapter 14 |
| Week 12 | M | | 17 | 33) *** THIRD EXAM *** |
| | W | | 19 | 34) Weathering and Mass Wasting Systems; Rock Structures, Chapters 15 & 18 |
| | F | | 21 | 35) Weathering and Mass Wasting Systems; Rock Structures, Chapters 15 & 18 |
| Week 13 | M | | 24 | 36) The Water Cycle and Hydrologic Processes, Chapter 16 |
| | W | | 26 | 37) Fluvial Processes and River Systems, Chapter 17 |
| | F | | 28 | 38) No Class – Thanksgiving Recess |
| Week 14 | M | Dec | 1 | 39) Fluvial Processes and River Systems, Chapter 17 |
| | W | | 3 | 40) Glacier Systems & the Ice Age, Chapter 20 |
| | F | | 5 | 41) Glacier Systems & the Ice Age, Chapter 20 |
| Week 15 | M | | 8 | 42) Glacier Landforms and Sediments, Chapter 20 |
| | W | | 10 | 43) Systems of Landform Evolution: Summary and Wrap up |
| | F | | 12 | 44) *** FOURTH EXAM *** |