

Global Climate

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TEXTS: *Understanding Weather & Climate*, Aguado & Burt, 6th Edition
Isaac's Storm, Erik Larson

WEB SITE: <http://myslu.stlawu.edu/~aodo/SLU/climate/index.htm>

INFORMATION AND LECTURE FILES: T:\Global Climate

Science is simply a long and careful look beneath and beyond the world's skin. In the same field where I see only a muddle of anonymous green, Henry David Thoreau, scientist of Walden Pond, saw infinite variety: cotton grass, foxtail, life-everlasting, goldenrod, Saint Johnswort, mullein, meadowsweet. An astronomer sees a sky far richer than mine, filled with quasars and pulsars, galaxies and nebulas. In all that bickering at the bird feeder, an ornithologist sees pair bonds and pecking order. In that annoying rock dug out of the strawberry patch, a geologist sees grey granite left in the 10,000-year-old path of glaciers. This new depth of seeing has taken us from the beetles in our own back yards to the particles inside the atom and the gaseous glow at the end of the universe.

— Rebecca Rupp

COURSE PHILOSOPHY: AS A DISTRIBUTION REQUIREMENT

Global Climate is intended for students not majoring in science. It fulfills a distribution requirement, which means that besides having no pre-requisites, it must fulfill the rationale and definitions agreed upon by the St. Lawrence University faculty in the spring of 1999¹:

OUR STUDENTS WILL BE ASKED TO MAKE POLITICAL AND ETHICAL DECISIONS ON ENVIRONMENTAL AND TECHNICAL ISSUES. THEIR ABILITY TO MAKE SOUND JUDGMENTS ON SUCH ISSUES DEPENDS IN PART ON AN UNDERSTANDING OF MATHEMATICS, NATURAL LAW AND SCIENTIFIC ENDEAVOR. IT ALSO DEPENDS ON APPRECIATING THE WAYS BY WHICH SCIENCE AND TECHNOLOGY INFLUENCE SOCIETY AND ARE INFLUENCED BY SOCIETY.

The explicit requirements for a natural science distribution course set forth in this document are:

1. DEVELOP AN **AWARENESS OF THE VARIETY AND RICHNESS** OF NATURAL PHENOMENA AND, INSOFAR AS POSSIBLE, RELATE THEM TO EVERYDAY EXPERIENCE;
2. PROVIDE A **THEORETICAL AND QUANTITATIVE UNDERSTANDING** OF THE PROCESSES UNDERLYING NATURAL PHENOMENA;
3. PROVIDE A **SENSE OF HOW SCIENTIFIC KNOWLEDGE IS OBTAINED**, EITHER THROUGH THE HISTORICAL STUDY OF ITS DEVELOPMENT OR BY THE EXAMINATION OF THE EXPERIMENTAL OR OBSERVATIONAL EVIDENCE UPON WHICH IT STANDS.

¹ Curriculum Revisions, Part II passed on 5/18/99, copies available in the Registrar's office.

COURSE PHILOSOPHY: AS AN INTERDISCIPLINARY SCIENCE COURSE

Each course is an opportunity to stir student's sense of wonder and to broaden the way they see the universe. This universe (the only one we're aware of having lived in) is an amazingly elegant and wondrous place. The Earth, which all of us are used to, is a strikingly unique place in this magnificent universe where liquid water falls from the sky, life strives to fill every crevice and landscape, and some creatures look up to the sky in wonder.

In *Global Climate*, we will strive to provide an expanded historical and geological context within which to understand the working of Earth's climate and the scientific work of learning to understand its processes. We will also nurture a familiarity and appreciation for the sky which we hope will fuel a life-long interest in weather, climate, and the science and health of the atmosphere. To accomplish this, we will emphasize independent data collection through dedication of a significant portion of the course and lab to following the cycles of weather through use of publicly available data and maps.

COURSE REQUIREMENTS:

- 1) Attendance - Attendance is required and will count for 10%
- Arrive on time and stay for the entire time, a break will be given
- 2) Lab Work - Exercises must be completed and handed in during the lab period
- Average will be worth 10%
- 3) Exams - Three will be given as scheduled in the calendar (15% each)
- 4) Projects - North American Weather Project (20%)
- IPCC Presentations (Climate Symposium during Final period) (15%)

FINAL GRADE will be a simple average of all of the above grades, scaled to

4.0	3.75	3.5	3.25	3.0	2.75	2.5	2.25	2.0	1.75	1.5	1.25	1.0	0.0
>94%	91- 94	88-91	85-88	82-85	79-82	76-79	73-76	70-73	67-70	64-67	61-64	58-61	<58

with the instructor's subjective freedom for the treatment of borderline cases!

