

Master Syllabus
Department Of Geography

GEOG 230: Elementary Meteorology

Course Description

Introductory presentation of basic meteorological processes with a focus on applying theory to the analysis and forecasting of local weather conditions. (3 credit hours).

Prerequisites: None.

Course Objectives

The objective of the course is to introduce students to concepts central to meteorology. Specific aims of the course are to enable students to (1) define the key terms, concepts, and principles found in meteorology, (2) analyze weather maps and solve meteorological-based math problems and (3) act in a safe manner when faced with hazardous weather situations.

Course Rationale

Students will develop a conceptual framework to explain the development and evolution of phenomena in the atmosphere. Students will then be able to apply course material to weather they encounter in daily living or in a secondary school setting. Material learned in this class will also serve as a base to be built upon as Geography – Option IV majors progress through the degree. All students will also gain a basic understanding of meteorological hazards and knowledge that they can use to protect life and property in hazardous weather situations. Geography 230 is a requirement for the Option IV: Meteorology and Climatology degree (both tracks) and is an elective for most other Geography options. It is also an elective for education majors seeking to teach science.

Course Content and Format

Students will be presented material in a lecture-style format that will include multimedia presentations and case study discussions. The following shows an example of a potential outline of topics for this course, with time allotment for each topic at the discretion of the instructor:

- Basic tools and techniques of meteorology.
- Energy transfer and seasons.
- Meteorological variables such as temperature, moisture, and pressure.
- General circulation of the atmosphere

- Fronts and Cyclogenesis
- Applied Meteorology Topics, such as thunderstorms and hurricanes (actual topics chosen may vary depending on instructor expertise)

Textbook Suggestions

1. *A World of Weather: Fundamentals of Meteorology*, by Jon Nese and Lee Greci.
2. *Meteorology Today*, by C. Donald Ahrens.

Methods for Evaluating Student Performance:

Forms of evaluation might include examinations, quizzes, homework problem sets, and analysis of real-world examples.

Evaluation of the Course

Student evaluation of the course using university (and departmental) course evaluation forms.