

CLIMATE SCIENCE (CLSCI)

Courses primarily for undergraduates:

CLSCI 1400: Climate and Society

(Cross-listed with AGRON 1400/ ENVS 1400/ GEOL 1400/ MTEOR 1400).

Credits: 3. Contact Hours: Lecture 3.

The climate system of our planet. How nature and our actions alter the existing energy balance leading to climate change. Past climates on our planet. The influence of climate on society and resource availability during the Holocene (~ 11,000 years ago to present) with focus on changes post industrial revolution. Significant climate events that have altered our way of life in the past. Projected changes in future climate and potential impacts on society, environment and resources. Adaptation to and mitigation of climate change. Meets International Perspectives Requirement. (Typically Offered: Fall, Spring)

CLSCI 3600: Ocean-Atmosphere Interactions

(Cross-listed with MTEOR 3600).

Credits: 3.

Prereq: MTEOR 2060

The physical interactions between the atmosphere and ocean, and their influence on weather and climate; coupled modes of climate variability and their teleconnections; air-sea feedback in the tropics and mid-latitudes. Applied topics include seasonal prediction and climate data analysis. Offered odd-numbered years. (Typically Offered: Spring)

CLSCI 4040: Global Change

(Dual-listed with MTEOR 5040/ AGRON 5040/ ENSCI 5040). (Cross-listed with AGRON 4040/ ENSCI 4040/ ENVS 4040/ MTEOR 4040).

Credits: 3. Contact Hours: Lecture 3.

Recent changes in global biogeochemical cycles and climate; models of future changes in the climate system; impacts of global change on agriculture, water resources and human health; ethical issues of global environmental change. (Typically Offered: Fall, Spring)

CLSCI 4150: Paleoclimatology

(Dual-listed with GEOL 5150/ ENSCI 5150). (Cross-listed with ENSCI 4150/ GEOL 4150).

Credits: 3. Contact Hours: Lecture 3.

Introduction to mechanisms that drive climate, including the interplay between oceanic and atmospheric circulation and fluctuation in Earth's orbital parameters. Examination and analysis of past climate records ranging from historical documentation to ecological and geochemical proxies (e.g. tree ring analysis; O and C isotopes of skeletal carbonates and soils). Dating methods used to constrain and correlate climatic periods; utility of computer models to reconstruct past climates and predict future climate change. Emphasis placed on paleoclimatology and paleoecology of the late Quaternary (last ~1 million years). Offered even-numbered years. (Typically Offered: Fall)

CLSCI 4900: Independent Study

Credits: 1-3. Repeatable, maximum of 9 credits.

Prereq: Instructor Permission for Course

Independent study for advanced students. Graduation Restriction: No more than 9 credits of CLSCI 4900 may be counted toward graduation. (Typically Offered: Fall, Spring, Summer)