CONFRONTING CLIMATE CHANGE

A College of Arts and Sciences Theme Semester

SPRING 2020

Confronting Climate Change, Transforming Cultures: A College of Arts and Sciences Theme Semester

For the Spring 2020 semester, the College of Arts and Sciences has created a curriculum with an emphasis on climate change that brings together several courses from across our programs and disciplines.

Climate change has been rapidly altering our environment and, in doing so, has necessarily altered how we must think about nearly every other issue and aspect in our world, such as health, racial and gender inequality, politics, economy, immigration, environmental justice, and more. We are pressed to address climate change scientifically and think about it in his-torical and sociological terms, in terms of the psychology of denial, as well as through art, culture, and language.

The suite of courses that are part of this program aim to tackle many of these issues, dimensions, and challenges from a diverse range of perspectives and disciplinary lenses.

ANTHROPOLOGY

ANTH 374
The Maya
TR 1:40–3:05 pm

This course reviews the origins and devel-opment of pre-hispanic Maya culture, studying in part how Maya populations deforested huge areas and built homes on farmland, transforming the local micro-climate and leading to soil erosion and malnutrition.

ART

ART 320
Drawing III
TR 12–2:30 pm

This course pushes traditional modes of the form into areas of greater conceptual involvement. We will use climate change as a theme in one project to find how artists are using socially engaged, collaborative methods to affect their community and environment.

BIOLOGY

BIO 104
The Changing Natural Environment
(multiple sections and times)

This course explores a biological approach to understanding the natural environment, introducing basic ecological principles. We will examine how climate change affects species distributions, how humans drive climate change, and how potential energy alternatives can reduce carbon emissions.

BIO 202
General Biology II
(multiple sections and times)

Students learn experimental design by developing their own hypothesis related to how some variables impact plant growth. We will encourage students to develop hypotheses related to anti-cipated effects of climate change and will incorporate the effects of climate change, discussing how populations and communities may respond to climate change.

BIO 305
General Ecology
(multiple sections and times)

We will examine the evidence that climate change is impacting living organisms and interactions with their environments.

BIO 341
General Microbiology
(multiple sections and times)

This course integrates the impacts of climate change on bacteria and viruses as they relate to human health, focusing on the increased spread of microbes poleward and upward in elevation, infecting humans, livestock, and crops and also on the increased spread of multidrug resistant bacteria as a result of climate change.

BIO 357
Community Ecology
MW 10:50–12:05 pm

This course focuses on community ecology, which emphasizes how the interrelationships among several species within an area determine the structure and function of ecological communities within an ecosystem. We will explore effects of climate change at the community and ecosystem levels.

BIO 390
Senior Seminar
(multiple sections and times)

Students are preparing review papers and oral presentations on topics of their choice in relation to changing climate.

BIO 475
Advanced Immunology
M 5:40–8:30 pm

This course will study the effect of climate change on innate and adaptive immune response. Higher temperature and UV rad-iation has been linked to weakening immune response, especially in vulnerable children.

COMMUNICATIONS, MEDIA, & THEATRE

CMTC 101–4
Introduction to Public Speaking
MW 11:30–12:45 pm
(CASEP section)

This course focuses on the development of research, organization and delivery of various types of speeches. During the unit focused on Persuasive Speaking, students will select issues pertaining to climate change, and how to educate others on the importance of taking action to protect our planet.

CMTC 333
Contemporary Theatre
M 6:10–8:50 pm
El Centro

This course provides a survey of theatre and drama from the twentieth century to the present, and will address climate change through a two-fold process. First, we will include a contemporary play to study in class that is about climate change, and the final project in the course will require students to collaborate in small groups on original ten-minute plays about a specific climate change topic that can range in genre and style.

COMPUTER SCIENCE

CS 300
Client Side Web Development
TR 9:25–10:40
The course discusses web site design issues and the requirements of e-commerce. Furthermore, it covers the creation of web pages. Hands-on development and group projects are an essential part of this course. For their second project, students will research a specific issue related to climate change and then build an informative website on what they have learned.

CS 323–2
Cyberlaw
F 1:30–4:10 pm

This course presents an introduction to the legal issues relating to the use of computers and the Internet. Topics covered include privacy, freedom of speech, intellectual property in cyber-space, encryption and interception of communication, computer crime, professional ethics and codes of conduct and work related ethical and legal issues. Included will be issues of how the online community is responding to climate change, and how pressure from that community is influencing legislation contemplated by governments around the world. The open source movement for accelerating environmental research and development through access to patented material and government documents will also be discussed.

CS 327
Computational Methods in Biology
MW 4:15–5:30pm

This course introduces the techniques used in bioinformatics, in particular sequence alignment, genome assembly, models of evolution and phylogenetic trees, analyzing gene expression data, and gene linkage analysis. Students will begin the first half of the semester learning the algorithms and programming skills necessary for addressing the above problems in bioinformatics. In the second half of the semester, students will take these techniques and apply them to understanding existing mathematical and computational climate models.

CS 420
Object-Oriented Design
TR 5:40–7 pm

This course provides graduate students with a solid foundation in object oriented design (OOD) and programming (OOP), a contemporary and highly used program-ming paradigm. As students are exposed to programming techniques for designing applications at a more sophisticated level, they will also be introduced to the use of these paradigms within the context of building applications to promote awareness of climate change (social networking, wearable/tracking apps, etc).

EARTH SCIENCE

ESCI 306
Earth Materials
M 9–10:40 am, W 9–11:30 am

This course covers the origins of Earth materials such as gasses within the atmosphere, minerals, rocks, soils, and water, as well as the mining and extraction of Earth materials. Students evaluate and discuss issues related to climate change such as our society's dependence on Earth materials and the need for sustainable alternatives, the impact of the privatization of water on communities, and the contribution of greenhouse gasses to the environment via natural and anthropogenic sources.

ESCI 347
Climate Change - Past, Present, & Future
M 4:15–5:55pm, W 4:15–6:45pm

This course investigates the characteristics and causes of short (1 year) to long-term (>1 million years) climate change over the past ~400 million years and ~100 years into the future. The course will present an overview of the methods and techniques used to reconstruct Earth's climate history in the past, and will investigate ongoing climate changes in the present, and those predicted for the future.

ESCI 370
Interdisciplinary Seminar on Climate Change
M 7:05–8:45pm

This university-wide seminar provides important views on the critical issue of climate change, drawing from many perspectives and disciplines. Faculty from different NEIU departments and other institutions will present an overview of socio-economic, political, cultural, racial, gender, ethical, and scientific perspectives on the issue of climate change.

ENGLISH

ENGL 101
Writing I
TR 9:25–10:40 am

Specialized instruction and practice in beginning writing. Work in usage, grammar, style, paragraphs, and short essays. In add-ition, we will study the ways in which a range of authors explore issues of climate change in contemporary literature. Examples may include eco poetry, climate fiction, and cli-fi.

ENGL 102-2
Writing II
TR 9:25–10:40 am

This course represents a continuation of practice in composition with emphasis on a variety of forms of writing and long essays, culminating in the annotated research paper, & the focus will be climate change in Chicago.

ENGL 343
Global Ecologies
MW 4:15–5:30 pm

The course centers on how the environment is represented, imagined, and refigured across a range of literary and cultural texts, Moreover, the course studies how the environment is inextricable from understanding a range of social relations from race and class to ethics and politics.

ENGL 402
Ecological Crises and Narratives: Searching for New Aesthetic Form
R 4:30–9 pm (8 weeks)

How does literature transform during periods of ecological crises? What new aesthetic forms and practices do writers develop in order to represent collapsing ecologies? How do ecological crises change the form of literature, and moreover, change conceptions of class, race, ethnicity, gender, and belonging?

ENGL 487
Material Culture
T 7:05–9:45 pm

This course traces the impact of material determinants of the literary and cultural production (technologies of print, publishing economics, digital advertising, etc) on the content of literature and culture in the US. We will dedicate a third of the course to the environmental impact of cultural production--focusing particularly on the paper industry at the advent of mass production in books and newspapers from the later 19th century into the 20th.

ENVIRONMENTAL SCIENCE

ENVI 101
Introduction to Environmental Science, Geddes and Reinke
(multiple sections and times)

This class fulfills the Natural Science with lab requirement of the General Education curriculum and the first in the Environmental Science Major. Students will be introduced to the concepts of global climate change (causes, effects, and consequences).

GEOGRAPHY & ENVIRONMENTAL STUDIES

GES 104
World Geography
(multiple sections and times)

This course introduces students to the basic concepts of both physical and human geography. As we encounter the World, region by region, we also take into consideration aspects of how climate change is impacting ecosystems and societies.

GES 150
Introduction to Environmental Studies
(multiple sections and times)

This is a general education course that introduces students to the field of human-environment relations from a primarily social science perspective, but includes key ecosystem concepts and principles. We devote multiple classes to climate change, including explicitly dealing with the basics of CC science and GHG sources, the politics of international climate agreements and institutions, and global impacts of CC across geographic regions.

GES 205-1
Physical Geography
TR 1:40–2:55 pm

This course introduces students to physical geography - the physical environmental dimensions of global geographic systems. We devote multiple classes to the atmosphere, climate, weather, and touch on the impacts of climate change on rivers, glaciers, biogeographic patterns, and other geomorphic and ecological systems.

GES 319-1
Environmental & Natural Resources Policy
TR 4:15–5:30 pm

This course introduces students to the basics of environmental politics and policy. Students not only read a chapter on U.S. climate change policy, as well as discuss the role of individuals, organizations, cities and states in advancing U.S. environmental policy, but also interview policymakers and environmental regulators in U.S. states to understand how a specific program or policy is implemented in place.

GES 328-1
Wildlife Resource Management
S 9–11:50 am

This course is a general wildlife management course focusing on fish and wildlife values, conservation principles and practices, and current policy issues with an emphasis on urban wildlife. Climate change is discussed in relation to its impacts on migration, species distribution, behavioral changes, and population dynamics.

GES 349-1
Environment & Urbanization
MW 2:20–3:55 pm
The course focuses on issues of international urban development emphasizing the role of the natural environment. In this context, the rapid growth or urban areas both within and beyond the core industrialized regions necessitates an understanding of the processes involved and the implications for a livable present and sustainable future. The effect of climate change on cities around the world is a central concern of the course and a theme that threads through lectures and readings.

GES 362-1
Population Geography
MW 11:30–12:45 pm

Population structure, growth/decline, distribution, and migration from local to global scales will be covered, as well as the impact of population structure on economic growth and problems including environmental degradation and human suffering. We cover how climate change impacts population distribution and migration patterns, and how climate change created the existence of 'climate refugees'

GES 370-1
Interdisciplinary Seminar on Climate Change
M 7–8:45 pm

This seminar is designed to introduce students to the issue of climate change from a multi-disciplinary perspective. Students will have weekly seminars on topics across the social sciences, natural sciences, and humanities that relate to CC in some way.

GES 392-2
Geographic Information Systems II
MW 5:40–6:55 pm

This course introduces advanced skills in Geographic Information Systems (GIS), including the concepts, methods and techniques of geospatial analysis and modeling. Climate change is a geographic problem and we will discuss and practice GIS techniques that can be applied to spatially analyze the complex phenomena and to inform decision making.

GES 416-1
GIS for Natural Systems Management
T 7:05–9:45 pm

This course introduces students to the theory and concepts of data storage, retrieval, visualization, modelling, and output for natural resource applications and management. This graduate level course will devote several readings and practical assignments to studying the causes and consequences of climate change through the lens of GIS.

HISTORY

HIST 301
Medieval Europe
Online

This course will take as its central theme, among others, the effect of climate change on the development of society and culture of the global Middle Ages. Of particular interest will be how both warming and cooling affected the migration of the barbarians, the economy, global famine, and the Black Death."

HIST 346
Environmental History
TR 9:25–10:40 am

The course examines the Environmental History of North America from 1492 to the present. It considers past examples of regional climate change as well as the causes and implications of global climate change since the late 20th century.

JUSTICE STUDIES

JUST 301-2
Theories of Justice & Social Change
MW 11:30–12:45 pm
This course covers some theories of justice as well social change. Within these theories, a small section is dedicated to environmental injustice drawn from Robert Bullard's work. The content and discussion center around perspectives that negate and ones that sustain environmental pollution and poisoning as the foundation and driving forces of climate change.

JUST 370
Immigration in Global Perspective
Online

Among other immigration issues, this course will look at the ways in which climate change affects human migration.

LATINX & LATIN AMERICAN STUDIES

LLAS 101-1
Intro to Latina/o & Latin American Studies
Online

The course traces connections with ancestral Latin America in terms of its pre-Hispanic and colonial past, as well as its post-colonial present, and will include a unit examining the historical and ongoing exploitation of the Amazon rain forest and related political, economic and ecological implications.

LINGUISTICS

LING 110
Lexicology
(multiple sections and times)

This course provides an introduction to the study of words, with particular attention to English from an historical structural and sociolinguistic persp-ective. Climate change has changed from being a scientific phenomenon to being a political, social, and cultural phenomenon. How we frame climate change in the words we use to describe it influences our perceptions of the reality.

LING 120
Language & Human Behavior
(multiple sections and times)

This course covers an introduction to the basic principles of psycholinguistics and sociolinguistics. Among the topics covered are language endangerment and loss, which are often the result of climate change refugees who feel that they must abandon their native languages in favor of languages of wider communication as they move to generally more urban environments.

LING 449-1
Anthropological Linguistics
T 7:05–9:45
Through collection and analysis of naturally-occurring culturally-grounded data, students will identify and come to appreciate how language structures and reveals the systems that both influence and expose cultural knowledge. The specific focus of this course this semester will be the language of and around climate change.

LING 481-1
Language & Tourism
T 4:15–6:55 pm

This course allows for advanced work and individual projects in language and tourism, a growing area of applied linguistics. The effects of climate change on tourism, from rising sea levels in island vacation spots to natural disasters in popular touristic destinations, will be covered in detail.

MATHEMATICS

MATH 371
Mathematical Modeling for Cancer Risk Assessment
5:50–6:555 pm
This course introduces the student to mathematical and statistical methods that relate the cancer dynamics to its causes. One of the seminar topics investigates the relationship between the increased pollution on earth, mainly burning fossil fuel, a promoter of climate change, and the cancer incidence.

PHILOSOPHY

PHIL 366
Feminist Ethics
11:30–12:45 pm

This class explores different ethical theories developed by feminist scholars who found existing ethical frameworks to be insufficient for tackling pressing moral issues. One of the questions we'll explore is how climate change and environmental ethics interact with questions about gender equality and feminist theories of justice.

PHYSICS

PHYS 103-3
Universe Past, Present and Future
TR 12:15–1:30 pm

This course will examine the historical record of climate change on earth and climate factors including the Sun's luminosity, blackbody radiation, transmission, reflection and retention of solar radiation, and a comparative model of climate on terrestrial planets. We will also discuss the measurements of atmospheric carbon dioxide and determinations of average global temperature.

PHYS 108
Physics Concepts For Educators
MW 9:25–10:15 am, 10:25–12:05 pm

This course focus on teaching physics concepts for middle school teachers. There will one to two weeks discussing climate change from the physics perspective, including energy balance, albedo, radiation, reflection.

PHYS 110
Physics In Everyday Life
MW 9:25–10:15 am, 10:25–12:05 pm

This course is the physics general lab education. There will one to two weeks discussing climate change from the physics perspective , including energy balance, albedo, radiation, reflection.

PHYS 306
Modern Physics II
TR 5:40–6:55 pm

This course provides an introduction to the physics which underlies climate modeling, including blackbody radiation, the solar spectrum, and the transmission, reflection and retention of solar radiation.

PHYS 309
Computing for Scientists
MW 4:15–5:30 pm

This course will provide modeling back-ground for students in the STEM disciplines. There will be opportunities for students to work on climate modeling projects including long term effects of different greenhouse gases in the atmosphere.

PHYS 335
Thermal Physics
TR 4:15–5:30 pm

This course provides a rigorous treatment of the physics that underlies climate modeling. Students will learn to derive blackbody radiation and apply this to the solar spectrum. Students will carry out calculations of average global temperature using simple models.

POLITICAL SCIENCE

PSCI 347
Disaster Policy & Politics
TR 4:15–5:30 pm

This course focuses on the evolution of U.S. disaster policy and the practice of emergency management, with particular attention to the roles of local governments, public agencies, and nonprofit agencies in disaster management.

PSCI 357
Politics of the European Union
TR 10:50–12:05 pm

Politics of the European Union is an introduction to the history, the institutions, and the policies of the European Union. Students will discuss topics ranging from theories of integration to economic and social policy and issues of democracy in the EU. Environmental policy and climate change is one of the key policies discussed in this class. We will discuss the role of the European Commission in promoting the UN Climate Convention (UNFCCC) as well as its support for developing countries' efforts to tackle climate change.

PSYCHOLOGY

PSYC 200
General Psychology
(multiple sections and times)

General introduction to the study of psych-ology as a science. The course will incorporate a "climate change question of the week" that will require students to apply the current week's learning to the application of a climate-change

PSYC 308
Laboratory, Research Methods in Psychology: Tests & Measurements
S 8 am–1 pm

This course focuses on the development, construction, scoring, standardization, and determination of reliability and validity of simple tests in psychology. Members of the class will create a climate-change themed test during their lab session that week. For example, they might choose to create a climate change knowledge tests, a climate change attitude test, or a climate behavior test.

PSYC 328
Seminar in Aging
F 9–11:40 am

This course will study aging and the environment. All of the class will be focused on issues of "aging in place" related to environmental demands and associated issues of climate change. Migration issues impacting a growing global aging population will be examined, among other topics.

PSYC 341
Research Methods in Clinical Psychology
TR 7:05–9:45 am

This lab course represents the application of techniques learned in Statistics and Research Methods to actual research topics in clinical psychology. Through lecture and laboratory research activities, students collect and analyze data. Climate change and the future of earth's ecosystems is a topic that has the potential to produce anxiety among the population. Students will be asked to develop surveys related to fears about climate change, and how mood is affected by belief about the Earth's immediate and long-term future.

PSYC 361
Laboratory & Research Method, Social Psychology
MW 1–3 pm, F 1–2 pm

This lab course represents the application of techniques learned in Statistics and Research Methods to actual research topics in social psychology. Through lecture and laboratory research activities, students collect and analyze data. Climate change topics will be addressed from a social psychological perspective. Survey research methodology will explore attitude measurement and attitude change via the lens of climate change

PSYC 367
Psychology of Food
TR 9:25–10:40 am

Food and eating play an important role in how we define ourselves and how we relate to other people. This course will explore many aspects of food and food consumption, primarily through the lens of a social psychological perspective. Topics will include: emotions and food; food and health; cross cultural perspectives on food; and contextual cues that influence our eating choices Psychology factors (e.g., habit, climate change denial) that influence 'climate-positive' food choices will also be explored as well as the application of psychological concepts to improving environmentally friendly practices, particularly as they relate to food consumption habits.

SOCIOLOGY

SOC 205
Contemporary Social Issues
TR 1:40–2:55 pm
This course examines major contemporary social issues, such as poverty, racism, sexism, climate change, and other controversial topics often considered harmful to society. By deepening our comprehension of their underlying structures and processes, this course seeks to dispel conventional myths that prevent us from understanding social problems and solutions we all share.

SOC 314
Urban Sociology
W 4:15–6:55 pm

This course examines population characteristics, social structure, social policy and social change associated with cities and urban communities, including intersections of race, class, and place including environmental racism and the impact of urbanization on health and well-being in the Global South.

SOC 338
Environmental Sociology
TR 9:25–10:25 am

This course examines the relationship between social change, social systems, and the environment. It explores multiple perspectives in the field of environmental sociology, including political economy, environmental inequalities, environmental discourse, environmental justice, and climate change, and the intersections of race, gender, class, nation, and environmental disruptions.

TESOL

TESL 330
Language, Society & Education
Online

Researchers who study the relationship between language and society or culture are in a unique position to provide insight into language- and culture-related social problems, one of them being climate change. This course examines the relationship between language, culture, and society, with particular attention to how factors such as class, gender, race, and ethnicity impact student performance in the classroom. Issues of identity, bilingualism, language prejudice, and climate change will also be addressed.

TESL 340
Teaching English as a Second Language: Practices & Procedures
MW 11:30–12:45 pm

Practices and techniques related to the teaching of English as a second language, in ESL or bilingual education programs. One of the core areas in this class is content-based instruction. Climate change is an important topic that will make language learning meaningful and relevant.

TESL 341
Teaching English as a Second Language: Principles of Language Teaching
Online

Theories and principles underlying the teaching of English as a second language to limited-English speaking children and adults. Survey of various methodologies in second language teaching and bilingual education. Reviews relationships between language and culture and discusses the major problems in language education, such as climate change.

TESL 343
TESL Assessment
Online

Testing and assessment as they relate to limited English proficient students; information on instruments and procedures for testing language and cognitive development; proficiency, placement, and achievement testing. Students look at well-known standardized testing devices such as the bilingual syntax measure and the TOEFL test, at cultural and instrumental bias in testing, and at procedures for writing and evaluating classroom tests and various test item types. Climate change will be one of the content areas used to analyze and create various assessment instruments.

WOMEN'S & GENDER STUDIES

WGS 101
Women's Perspectives & Values
(multiple sections and times)

Examines the lives of women and the impact that ethnicity, race, class, and sexual orientation have in determining women's status in our society. This course examines the intersection of gender and environmental justice including eco feminism.

WORLD LANGUAGES & CULTURES

SPAN 340/LLAS 340
The Yucatec Maya & the Mexican Southeast
MW 4:15–5:30 pm

This course explores how literature mobilizes social constructions of the Yucatec Maya peoples. We will dedicate several weeks to understanding how multinational companies have invaded Mayan territories, causing a massive environmental crisis, looking at how tourism has fueled this crisis, and how environmental change affects the Mayan disproportionately.