

Fall 2020 ACDIS Certificate Course List

Course		Name	Credit Hours	Description	Soc/Nat	General Education
ANTH 246		Forensic Science	4	History and theory underlying methods used in forensic science. Topics include the courtroom, the units of a crime laboratory, methods of securing and investigating a crime scene, and the analysis of evidence collected from a crime scene such as blood, fibers, hair and fingerprints.	Nat	Life Sciences
ATMS 120		Severe and Hazardous Weather	3	Most extreme manifestations of weather and climate are analyzed in terms of their physical basis and their historical, economic and human consequences. Emphasis is placed on the interplay between technological advances, the evolution of meteorology as a science, and the impacts of extreme weather (winter storms, floods, severe thunderstorms, hurricanes, El Nino). Technological advances include satellites, weather radars and profilers, and computer models used for weather prediction.	Nat	Physical Science, Quantitative II
ATMS 140	ESE 140	Climate and Global Change	3	Introduces climate change and its interactions with the global environment; surveys the physical, chemical, biological and social factors contributing to global change; includes topics such as greenhouse warming, acid rain, ozone depletion, distinguishes anthropogenic influences and natural variability of the earth system; addresses societal impacts, mitigation strategies, policy options and other human responses to global change.	Nat	Physical Science
ATMS 447		Climate Change Assessment	3	Provides students with first-hand experience with computer models used to study climate change and permits them to test hypotheses, develop scenarios, learn about the implications of various structures of the modeled system, and evaluate the climatic impacts of anthropogenic emissions. Students perform calculations and produce model scenarios using a web interface to our Integrated Science Assessment Model (ISAM).	Nat	
CS 461	ECE 422	Computer Security I	4	Fundamental principles of computer and communications security and information assurance: ethics, privacy, notions of threat, vulnerabilities, and risk in systems, information warfare, malicious software, data secrecy and integrity issues, network security, trusted computing, mandatory and discretionary access controls, certification and accreditation of systems against security standards. Security mechanisms: authentication, auditing, intrusion detection, access control, cryptography, security protocols, key distribution.		
ENG 471		Seminar on Energy and Sustainability	1	Challenges of developing energy systems and civil infrastructure that are sustainable in terms of resource availability, security, and environmental impact. Guest lecturers focus on: (i) global challenges -- future energy demand, geologic sources of energy, climate change, energy-water nexus, energy and security; (ii) markets, policies and systems -- economic incentives, policy and law, life cycle analyses; (iii) opportunities for change - CO2 sequestration, renewable power, bioenergy feedstocks, biofuels for transportation, energy use in buildings, advanced power conversion, the smart grid.	Nat	

GEOL 118	ESE 118, GLBL 118	Natural Disasters	3	Introduces the nature, causes, risks, effects, and prediction of natural disasters including earthquakes, volcanoes, landslides, subsidence, global climate change, severe weather, coastal erosion, floods, mass extinctions, and meteorite impacts; covers scientific principles and case histories of natural disasters as well as human responses (societal impact, mitigation strategies, and public policy).	Nat	Physical Science
ESE 289		Environment & Sustainability Field Study	1	Group expedition to study environment and sustainability issues at a nearby field site. Includes in-class meetings, student-led presentation, and a field trip that may be short as part of a day or as long as several days. Field trip and field trip fee required.	Nat	
MCB 436		Global Biosecurity	1	Designed to provide students with broad coverage of key areas of scientific, legal, social, ethical, and political aspects of biosecurity, emphasizing current problems and research in the areas of biodefense, emerging infectious diseases, synthetic biology, and other topics. In combination with related reading assignments, the weekly special topics-based seminar will integrate knowledge of modern biomedical research, advances in biotechnology, and natural and manmade biological threats with the skills to analyze and develop public policies and strategies for enhancing global biosecurity.	Nat	
NPRE 201	GLBL 201	Energy Systems	2 or 3	Patterns of energy production and utilization and technical aspects of renewable energy resources, advanced fossil fuel systems, and advanced nuclear systems.	Nat	
NPRE 481	GLBL 481	Writing on Technology and Security	3 or 4	Development of writing skills in standard computer, desktop publishing, and electronic publishing formats. On themes such as, global and regional security environments, arms control, nuclear energy, and climate change. For graduate credit, writing projects include documentation of computational work using software appropriate for typesetting of mathematical formulas.	Nat	Advanced Composition
PLPA 407		Diseases of Field Crops	3	Studies the symptoms of major field crop diseases, life histories of causal organisms, and methods of control. Lecture and laboratory.	Nat	
ACE 210	ECON 210, ENVS 210, NRES 210, UP 210	Environmental Economics	3	Economic issues surrounding environmental quality, including: costs and benefits of environmental protection; economics of environmental policies (such as those dealing with toxics, water, and air pollution, and municipal solid waste); and economics of international environmental problems (such as ozone depletion and climate change).	Soc	Social Science

ACE 251		The World Food Economy	3	Examination of global food production, consumption, and trade; problems of hunger and population; the role of agricultural development, trade, and aid in relieving hunger.	Soc	Non- Western, Social Science
CHLH 210		Community Health Organizations	2	Overview of institutions and agencies which provide health information, education, services, and care. Includes historical foundations, constituencies, organizational goals and structure, funding and expenditures, modes of service delivery, political and ethical issues.	Soc	
CHLH 243		Drug Use and Abuse	2	Introduction to the biological, psychological, pharmacological, and legal aspects of drug use and abuse; surveys community and university resources concerned with drug use and abuse; emphasizes personal and social actions for responsible drug use.	Soc	
CHLH 415		International Health	3 or 4	Explores the various factors that impact the health of populations around the world. Political, cultural, social, environmental and other domains will be examined in relation to how they affect the health of residents of various countries.	Soc	
CMN 280		Communication Technology & Society	3	Introduction to theory and research on both old and new communication technologies; focus will be on how these technological systems develop and are used, and what implications of these systems have for culture and society.	Soc	Social Science
GEOG 210		Social & Environmental Issues	3	Introduction to the complex relationship between people and the natural environment from a social science perspective. Explores different approaches to environmental issues, and examines the role of population change, political economy, technologies, environmental policymaking, and social institutions in causing and resolving contemporary social and environmental global issues.	Soc	Social Science
GEOG 221	GLBL 221	Geographies of Global Conflict	3	Focuses on contemporary cultural conflicts, competition among nations for economic and mineral resources; treats territorial disputes from a cultural and geographic perspective. Case studies vary to illustrate types of contemporary conflicts.	Soc	Social Science
GEOG 379	ESE 379	Intro to GIS Systems	4	Investigates the fundamentals of geographic information science as well as the basic skills in the execution of that theoretical knowledge with industry standard software packages. Student will learn the basics of projections and coordinate systems, how geographic information is stored and manipulated, and the theory and practice behind the production of thematic maps. Includes lecture and hands-on laboratory components.	Soc	
GLBL 220		Governance	3	Gateway course into the Governance thematic area for Global Studies majors providing an introduction to important themes, problems and approaches to global governance in a series of issue areas, including security, economics, migration, and the environment. Covers the historical development of the international system as well as contemporary controversies. Case studies are used to explore the strength and	Soc	

				weaknesses of current governance approaches, and students will conduct independent research into existing structures.		
GLBL 240		Global Health	3	Introduction to issues and problems in global health. As the world becomes more and more interconnected it is important for students to be aware of health issues from a global perspective. We will consider a variety of issues that influence the health of different population and countries. The topics to be discussed include: the environment, nutrition, education, the medical system, culture, and agency involvement in health. Case studies will be used to demonstrate some successes at addressing these issues and problems that were encountered.	Soc	
PS 300		Special Topics: Terrorism	3	Title: The Character and History of Radical Terrorism since the Mid-Nineteenth Century. Terrorism, a violent tactic with a strikingly long history of use, has become a central security concern and political issue in the U.S. in recent years. This course relies on both theoretical and empirical literature to examine a host of questions about terrorism in an advanced, intensive, discussion-based seminar. In particular, we investigate the definition(s) of terrorism, its historical use and evolution, the motivations of various types of groups that employ or have employed this tactic, different forms of terrorism, variation in state responses to terrorism (or, where and when terrorism successfully results in concessions), and the effectiveness of a range of counterterrorism strategies and tactics.	Soc	
PS 313		Congress and Foreign Policy	3	Examines cases of foreign-policy making over 100 years with a focus on the struggle between the legislative and executive branches, constitutional questions, explanations for changes in behavior, and the impact on democratic process.	Soc	
SOC 160		Global Inequality and Social Change	3	Introduces sociological concepts of poverty, inequality, and social change within a global context. Themes explored include basic food security, poverty and hunger; population and resource distribution; foreign aid and development institutions; and social policies and movements for change. Course approach is historical and transnational, and typically includes case studies from Africa, Asia, Latin America, and the United States.	Soc	Non- Western, Social Science
SOC 275		Criminology	3	Nature and extent of crime; past and present theories of crime causation; criminal behavior in the United States and abroad, and its relation to personal, structural and cultural conditions; the nature of the criminal justice system and the influences of the exercise of discretion among actors in the criminal justice system.	Soc	
TSM 311		Humanity in the Food Web	3	The human food web is the complex network of technologies, environments, people, and social institutions that produces, processes, and distributes the world's food supply. Students will study the food webs of the past, present, and future and will explore various human roles, including their own, in the global technology-environment-society-food system. Course topics include domestication, mechanization, urbanization, the green revolution, biotechnology, food safety, the environment, and appropriate technologies for developing countries.	Soc	Advanced Composition, History & Philosophy

UP 260		Social Inequality and Planning	3	How are inequalities produced and contested in an urban environment? This course examines this question by analyzing how the urban landscape shapes and is shaped by race, class, and gender inequalities. Uses comparative cases to explore successful intervention, both from formal and informal, across multiple scales from the local to the global.	Soc	Social Science
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