**FORESTRY AND ENVIRONMENT STUDIES (F&ES)**

* F&ES 255b / EVST 255b / GLBL 282b / PLSC 215b, Environmental Law and Politics: Global Food Challenges  
  John Wargo  
  We explore relations among food, environment, health, and law. We consider global-scale avoidable challenges such as: starvation and malnutrition, obesity, other food related human diseases, climate instability, soil loss, water depletion and contamination, microbial hazards, chemical contamination, food waste, dietary convergence, air pollution, energy, packaging, culinary globalization, and biodiversity loss. We focus on laws that influence the world's food system, including those intended to reduce or prevent environmental and health damages. Other laws protect rights of secrecy, property, speech, confidential business information, free trade, worker protection, equal opportunity, and freedom from discrimination. Ethical concerns of justice, equity, and transparency are prominent themes. Examples of effective law, consumer movements and corporate innovations provide optimism for the future of responsible food.

* F&ES 290b / EVST 290b, Geographic Information Systems  
  Charles Tomlin  
  A practical introduction to the nature and use of geographic information systems (GIS) in environmental science and management. Applied techniques for the acquisition, creation, storage, management, visualization, animation, transformation, analysis, and synthesis of cartographic data in digital form.

* F&ES 344b / EVST 444b, Aquatic Chemistry  
  Gaboury Benoit  
  A detailed examination of the principles governing chemical reactions in water. Emphasis on developing the ability to predict the aqueous chemistry of natural, engineered, and perturbed systems based on a knowledge of their biogeochemical setting. Calculation of quantitative solutions to chemical equilibria. Focus on inorganic chemistry. Topics include elementary thermodynamics, acid-base equilibria, alkalinity, speciation, solubility, mineral stability, redox chemistry, and surface complexation reactions.

* F&ES 422a / ANTH 409a / ER&M 394a / EVST 422a / GLBL 394a, Climate and Society from Past to Present  
  Michael Dove  
  Discussion of the major currents of thought—both historic and contemporary—regarding climate, climate change, and society; focusing on the politics of knowledge and belief vs disbelief; and drawing on the social sciences and anthropology in particular.