

URBAN 598 Climate Action Planning – 3 credits – Autumn Quarter

One of two proposed core courses for the Climate Resilience Planning certificate, currently under review by the UW Graduate School.

Course Description: This course places cities and urban infrastructure at the center of catalytic climate action. Focus is on the methods used by cities and their urban infrastructure partners to plan and implement built and nature-based mitigation and adaptation at the city, metropolitan area, system, and project scale. Activities in this course involve the introduction, critical evaluation, and practical application of instruments, methods, and skills employed by cities and their urban partners to plan for and realize a carbon negative and resilient future.

This course reveals the pragmatic and principled roles played by local organizations and their plans in shaping effective and equitable climate action. An estimated 70% or more of greenhouse gas emissions arise from urban systems and global studies show that 98% of investments in resilience come from local governments. Urban systems of energy, buildings, transportation, water, wastewater, industrial, and solid waste infrastructure, functioning within their biophysical, technological, political, social, economic and environmental justice contexts, determine the capacity of cities to mitigate greenhouse gas emissions and adapt to our changing climate.

The course is structured around three modules: 1) making and evaluating climate action plans, 2) mainstreaming climate actions within city plans, policies, and practices, and 3) applying the mechanisms of climate action implementation. The course begins with a review and evaluation of Climate Action Plans from leading global cities and local governments in Washington State. Activities compare plans in context, measure plan effectiveness, efficiency and equity, examine the roles of organizations (public, private, non-profit), and inform relationships with state, national, and international organizations. The second part of the course breaks down the elements of climate action into its constituent components for urban systems (e.g., energy, transportation, water), defining what it means to mainstream climate within cities. Activities engage instruments and technologies used by the world's leading cities (e.g., New York, London, Copenhagen, Auckland, Capetown, Seoul, Singapore, San Francisco) to establish and implement mitigation targets and adaptation pathways across communities and the whole-of-government. The third part of the course involves the practice of applying the mechanisms introduced in this course in a case-based exercise, to advance knowledge through experiential learning and reflection.

Course Learning Objectives:

By the end of the course students will be able to:

- Analyze, evaluate, and develop Climate Action Plans and their constituent components (including sectors, such as energy, buildings, transport, water, and waste), articulating their scientific basis and applying established tools and techniques found in leading global cities.

- Associate the contents of Climate Action Plans and their related implementation regulations with the enabling legislation, and rules and regulations of their respective State and National governments.
- Forecast, measure, monitor, and verify Climate Action Plan effectiveness, efficiency, and equity, in general, and with respect to environmental justice.
- Articulate the roles and capacities of local and/or global organizations—public, private, non-profit—in the development of plans for climate action and their implementation.
- Mainstream climate action within the whole-of-government, for a cross-sectoral and systems approach to conceptualization, development, implementation, and monitoring.
- Formulate a plan and implementation mechanisms, including governance, design, budgets, and finance, for mitigation targets and adaptation pathways with internal and external validity at the city, metro, system, and project scales