SYLLABUS

Professor: Paul D. Curcio
UIA: Brady Walther
Office Hours are after class and by appointment
Class meets on Monday and Wednesday from 6:30 PM to 7:50 PM for remote synchronous instruction
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The Value of the Course

Resiliency to social, environmental, and technological stressors and shocks has risen in importance and urgency as our cities face potentially dire consequences from inaction. This course examines how the design of our urban systems enables and inhibits progress in that regard. We may manage knowns and unknowns with heightened effectiveness to better shape our cities for the future through design thinking, strategy, and systems-oriented approaches. Students will build an understanding of resilience, system interrelationships, and creative leadership to mobilize resources and deliver innovation. Students will reflect on how cities design their future, why visions are challenging to realize, and what individuals may do to make an impact.

Learning Structure

Students will learn about the numerous lenses used in understanding the complex, interrelated challenges facing cities now and for the near future. Weekly readings will be supplemented with videos, expert guest speakers, student reflections, quizzes, and exercises to drive experiential learning and discussion. Student choices in areas of interest are structured to deepen and expand the course topics and help inform student group final projects and individuals' learning objectives.

Course Description

This course focuses on the history, current issues, and future of resilience as a planning paradigm paired with sustainability expectations and an increasingly urbanized global population. Students will:

1. examine how resiliency emerged as a dominant narrative
2. analyze how resiliency and sustainability intersect and complement one another
3. gain an understanding of how resiliency may prove useful in guiding global urbanization as it bounces forward through an era of escalating stressors and shocks
4. explore how cities may respond to various threats and the systems they threaten, and
5. review practices to deploy resources for urbanization, resilience, and sustainability.

Discussion Participation and Course Grading

This class relies heavily on the Socratic Method. Students will have an opportunity to lead and participate in discussions through full class sessions and offline small group work. Being an engaged listener and participant will impact your grade and learning experience.

20% Participation in Discussion and Discussion Boards
10% Quizzes – online format
20% Reading Reflections – **undergraduate students**: a slide-based presentation, OR, Substantive Briefing – **graduate students:** paper and slide-based presentation
20% Individual Project – written report on stressors, metrics, and interventions
20% Group Project Presentation – city resiliency assessment and recommendations
10% Take-Home Final Exam

Assignments

Students' assignments include several distinct but interrelated, if not interdependent, projects for USP 189 this quarter:

1. an individual resilience stressor assessment project,
2. a group city resilience assessment and improvement project, and
3. reading reflections, or substantive briefings (graduate students only.)

Students will learn by applying concepts and methods from readings and lectures. We will be providing additional guidance for the projects as the quarter progresses. Students should select their preferences for projects, reflections, and briefings during the first week on Canvas using the sign-up sheets. We will confirm our choices after our second meeting. Students may find it helpful to consider their selections' complementarity across assignments, e.g., how does your stressor relate to your reflection or Briefing?

Individual Project

The individual project focuses on assessing a primary stressor, such as housing affordability or sea-level rise. Students will discuss root causes, look at predicted and preferred outcomes, and discuss strategies for closing the gap between these outcomes. The assignment should allow students to see how stressors nest within a complex ecosystem requiring a data-driven and causal logic-centered narrative to build a case for cities to act. A list of resiliency domains and stressors from one author will be listed on Canvas under the individual project assignment to assist in your selections.

Group Project

Students will evaluate how effectively the resilience plans for their subject cities address issues of resilience and sustainability. Students will examine how well their cities' resilience plans: address multiple stressors and shocks, evaluate and measure risk, develop integrative courses of action, and mobilize on-the-ground change. As a vital part of the project and informed by course topics and their research, students will select and modify evaluative tools and utilize them in assessing city resilience. In week 11, each group will present their assessments and recommendations for their city's existing resiliency plan and lead a brief class discussion.

Reading Reflections

Reading reflections are an opportunity for students to tie recent articles and media into the course material and group project—to do a deeper dive or expand beyond the topics covered each week in class—and reflect their learnings to fellow students through a brief slide presentation. Please select issues of personal interest or pertinent to their group projects. Reading reflections begin in week 3.

Substantive Briefing

Graduate students taking the course will sign up for a written paper and slide-based Briefing, which they will share with the class during the course's final few weeks. The assignment will require a literature review within a substantive area and include, at a minimum, the designated materials and at least two other sources. Each student will present their summary findings regarding issues and best practices for resiliency planning in the substantive area of their choice. The list of the resiliency domains and recommended literature for review will be on Canvas.

Study Questions

Students will be asked every week through Canvas to review readings and view videos before our online gatherings. To optimize exchange, we will be providing discussion prompts. We will be co-developing methods to exchange thoughts online before class sessions and report out on their conversation. I welcome students' help in designing our social distancing adapted activities to improve dialogue and advance a shared understanding of the subject matter.

Final Exam

The final will be a take-home exam requiring short essay responses.

Weekly Overview – see weekly detailed Class Agendas for preparatory requirements on Canvas

Week 1 **Defining Sustainability and Resilience in the Context of Urbanization – March 29 and 31**

- Reconciling the relationships between resilience and sustainability
- Why is urban resilience rising?
- Natural and human systems interactions and impacts
- Connections between COVID-19 and resilience

Featuring: Student learning expectations and review of student pre-class assignment on defining resilience and sustainability

Week 2 **Context for Planning Paradigms – April 5 and 7**

- Lenses for understanding an emergent world
- Correlating planning and design to the urban Anthropocene
- Approaches for evaluating civic outcomes

Featuring: Coastal Sea Level Rise Case Studies

Week 3 **Systems Thinking and Design Thinking for Urban Ecosystems – April 12 and 14**

- Driving and restraining forces, frames, and mental models
- Systems and design thinking for resilient-sustainable outcomes
- Focusing on local change in massively interconnected systems

Featuring: Los Angeles and San Diego Resiliency Cases

Week 4 **Performance Metrics & Modeling – April 19 and 21**

- Indicators of high and low urban sustainability and resilience
- Outcome-metrics, performance, and aligning interests
- Platforms to address complexity, chaos, and collaboration

Featuring: Modeling, Visualizing and Managing Complex Systems,

Week 5 Decision-**Making Under Uncertainty and Risk – April 26 and 28**

- Basics of asymmetries
- Systemic risks, disaster risk mitigation
- Understanding, pricing, communicating risk

Featuring: Managing Risk

Week 6 **Leading Change – May 3 and 5**

- Driving and restraining forces in complex systems
- Roles and responsibilities of thought leaders and managers
- Converting talk and plans into action

Featuring: Financing Resilience

Week 7 **Case Studies: Sea Level, Global Warming, Geology and Fire – May 10 and 12**

- Limits of human control and prevention
- Inter- and intra-connectivity of natural and social processes
- Prevention, preparedness, and response

Featuring: Global Perspective on Sea Change

Week 8 **Case Studies: Water, Power, and Food, – May 17 and 19**

- Interrelationship of necessities in urban ecosystems
- Threats and challenges in providing and allocating basic needs
- Design strategies for systems continuity

Featuring: Integrated Waste-to-energy Solution

Week 9 **Case Studies: Housing, Work, and Access – May 24 and 26**

- Land value and housing production
- Access through transport, telecommunication, and adjacency
- Capital substitution's impact on work and community dynamics

Featuring: The Political Economy of Community

Week 10 **Case Studies: Governance, Finance, and Healthcare – June 3**

- Complex and interdependent social structures
- Designing complex systems for continuity
- Results-oriented governance

Featuring: Learning from COVID

Week 11 – Final Exam Day

- Take-home final due
- Group Project Assessments of and Recommendations for City Resiliency Presentations
- Summary Remarks and Closing Discussion

Sustainability is a seemingly laudable goal — it tells us we need to live within our means, whether economic, ecological, or political — but it's insufficient for uncertain times. How can we live within our means when those very means can change, swiftly and unexpectedly, beneath us? We need a new paradigm. As we look ahead, we need to strive for an environment and a civilization to handle unexpected changes without threatening to collapse. Such a world would be more than merely sustainable; it would be regenerative and diverse, relying on the capacity not only to absorb shocks like the popped housing bubble or rising sea levels but to evolve with them. In a word, it would be resilient.

-James Cascio in his 2009 Foreign Policy article, "Resilience: The Next Big Thing"

Do not try to make circumstances fit your plans. Make plans that fit the circumstances.

-General George S. Patton

Men often oppose a thing merely because they have had no agency in planning it, or it may have been planned by those whom they dislike.

-Alexander Hamilton

Plan for what is difficult while it is easy, do what is great while it is small. The difficult things in this world must be done while they are easy, the greatest things in the world must be done while they are still small. For this reason, sages never do what is great, and this is why they achieve greatness.

-Sun Tzu