UAP 5564 – Information Technology, Society, and Public Policy

Spring 2023
Tom Sanchez (tom.sanchez@vt.edu)
Urban Affairs and Planning

Course Description

This course focuses on the role of information and communication technologies (ICTs) in urban processes, planning, and governance. Emerging technologies have the potential to address urban challenges and provide services. Innovations in computing and visualization could also transform policy and planning. Despite their benefits, technologies can also reinforce existing societal divides and create new ones while posing threats to security and privacy. It is critical for us to assess these impacts and use citizen-centered approaches. (3 credit hours, no prerequisites)

Meeting Time and Place

Wednesday, 4:00 to 6:45pm, 900 N. Glebe Rd. Room 6-051. Video conferencing options will be available.

Learning Objectives

- Identify trends in emerging technologies that are shaping urban infrastructure, services, processes, and governance.

- Evaluate the role of information technologies within policy and planning.

- Assess the impact on society of technology integration in policy and planning.

Evaluation Method

Final grades will be established on the basis of:

Attendance & class participation	-	30%
Weekly online discussion	TBA	30%
Final project / presentation	April 26 or May 3	40%

Final Project

Presentation/discussion (20 minutes) on an information technology, society, and public policy topic that was not covered during the semester.

Course Schedule (Subject to change)

	Week	Topic	Presenter
Jan 18	1	Introduction and class organization	Tom Sanchez
Jan. 25	2	Planning trends	Petra Hurtado, PhD APA
Feb.1	3	Data Action: Using data for public good	Sarah Williams, PhD MIT
Feb. 8	4	Digital twins	Soheil Sabri, PhD University of Melbourne
Feb. 15	5	Urban data science	Madeline Pickens Urban Institute
Feb. 22	6	Smart Cities	Tan Yigitcanlar, PhD Queensland University of Technology
Mar. 1	7	PlanTech	Claire Daniel University of New South Wales
Mar. 8	8	Spring Break	--------
Mar. 15	9	Toward Human-Centered Futures in the Digital World	Shalini Misra, PhD Virginia Tech
Mar. 22	10	Artificial intelligence	Tom Sanchez
Mar. 29	11	Technology in government	Trey Gordner U.S. Data Corps
Apr. 5	12	AI and algorithmic bias	Faith Bradley
Apr. 12	13	The metaverse and virtual worlds	Tom Sanchez
Apr. 19	14	Frankenstein urbanism	Federico Cugurullo, PhD Trinity College Dublin
Apr. 26	15	Final projects/presentations	----
May 3	16	Final projects/presentations	----

Course Reading/materials

Week	Reading
1	----
2	Hurtado, Petra, Sagar Shah, Joseph DeAngelis & Alexsandra Gomez. (2023). *2023 APA Foresight Trend Report for Planners*. American Planning Association, Chicago, IL. Available at: https://www.planning.org/publications/document/9228382/ (2022 Report) 2023 Report Release: https://planning.zoom.us/meeting/register/tZApdO6urjgsH9OaarmsnzSVzjSWFa4kGJCJ?utm_medium=email&_hsmi=240358109&_hsenc=p2ANqtz-8tUNPyYOnSEp3OGBofWurMkWxn9DifR3uw1-6aagZD7CpaUZyBXMcGFtpWIlYuZ4dy9aqroHjZq18CAGyAsmrNg2iFRQ&utm_content=240358109&utm_source=hs_email
3	Williams, S. (2022). *Data action: Using data for public good*. MIT Press.
4	Digital Twin: https://eng.unimelb.edu.au/csdila/projects/digital-twin#projects Tzachor, A., Sabri, S., Richards, C. E., Rajabifard, A., & Acuto, M. (2022). Potential and limitations of digital twins to achieve the Sustainable Development Goals. *Nature Sustainability*, 5(10), 822-829. Available through VT Libraries. Principles for Spatially Enabled Digital Twins of the Built and Natural Environment in Australia: https://www.anzlic.gov.au/sites/default/files/files/principles_for_spatially_enabled_digital_twins_of_the_built_and_natural_.pdf
5	----
6	Yigitcanlar, T. (2023). *Smart City Blueprint: Framework, Technology, and Platform* (Vol.1&2) Routledge & CRC Press (forthcoming)
7	----
8	BREAK
9	Misra, S., Roberts, P., & Rhodes, M.* (2020). Information overload, stress, and emergency managerial thinking and decision-making. International Journal of Disaster Risk Reduction. Available online: https://www.sciencedirect.com/science/article/abs/pii/S2212420920312644 Misra, S., Roberts, P., & Rhodes, M.* (2020). The ecology of emergency management work in the digital age. Perspectives on Public Management and Governance. Published online before print: doi:10.1093/ppmgov/gvaa007 Misra, S., Cheng, L., Genevie, J., & Yuan, M. (2016). The iPhone effect: The quality of in-person social interactions in the presence of mobile technologies. Environment & Behavior, 48 (2), 275-298. (Published online before print July 1, 2014, doi: 10.1177/0013916514539755) Available online: http://eab.sagepub.com/content/48/2/275
10	Sanchez, T.W. (2023). *AI for Urban Planning*, Planning Advisory Service Report (XXX). American Planning Association. (forthcoming)
11	**Read** *Power to the Public: The Promise of Public Interest Technology* (book review) *Why does the IRS need $80 billion? Just look at its cafeteria*, New York Times *$100 Million to Cut the Time Tax*, The Atlantic **Watch** *Why healthcare.gov came out broken*, The Verge (11 minutes) *Digital Services Deep Dives: Learning How Modern Government Works*, Beeck Center (first 20 minutes only) **Skim** *Tinkering with what already exists*, Office of New Urban Mechanics (City of Boston)

	U.S. Digital Response, one month in, Medium
12	TBA
13	TBA
14	Cugurullo, F. (2021). *Frankenstein urbanism: eco, smart and autonomous cities, artificial intelligence and the end of the city*. Routledge. eBook available from the VT Library.

Class Policies: Graduate School Honor Code

The Graduate Honor Code establishes a standard of academic integrity. The code demands a firm adherence to a set of values and is founded on the concept of honesty with respect to the intellectual efforts of oneself and others.

Compliance with the Graduate Honor Code requires that all graduate students exercise honesty and ethical behavior in all their academic pursuits at the university, whether these undertakings pertain to study, course work, research, extension, or teaching.

To learn more about the Graduate Honor System and the Honor Code, visit these pages:

[Introduction to the GHS](#)

[The Graduate Honor Society Constitution](#)