

**The Hong Kong University of Science and Technology
Division of Public Policy (PPOL)**

Offering of Special Topics course, Summer 2023-2024

Semester:	Summer 2024
Course code:	PPOL 6100S (3 credits)
Course title:	Special Topics in Public Policy: Urban Innovation and Development
Abbreviated title:	Urban Innovation and Development
Course instructor:	Prof. Pengyu ZHU
Target students:	Only for PPOL MPP students
Class quota:	20

Classroom needed: for the first three sessions before the study trip
(these pre-visit sessions may also be arranged in a host city if hotels and classrooms can be provided by local government)

Grading requirement: Letter grades

Course description:

The summer course will take place from July 20 to July 30, focusing on the theme of urban innovation and development. This course will require 140 hours of study, including 48 hours for a structured programme of academic work, such as lectures and seminars at HKUST and in a host university, symposiums and workshops with local government officials and key industry stakeholders, and field trips to observe and experience relevant sites in Wuxi, Suzhou, and Shanghai. Students will have the opportunity to visit various high-tech enterprises, universities, and financial institutions and learn about local development policies. The course will provide students with invaluable opportunities to engage in face-to-face exchanges with industry leaders, enhancing their employment prospects. Additionally, participants will gain firsthand experience and insights into cutting-edge technology industries, including new energy, robotics, semiconductors, and more.

Course objective:

1. Gain a deeper understanding of the local business landscape, the economic developmental trajectory, and the latest industrial and business trends;
2. Obtain firsthand knowledge of the challenges and opportunities faced by enterprises, as well as the various policies implemented by the government;
3. Analyze the effectiveness and efficiency of policies and business strategies in terms of promoting business growth and local economic development;
4. Provide businesses and governments with well-grounded suggestions and strategic plans to foster their growth and success.

5. Establish students' connections with entrepreneurs, business leaders, and government officials, which will facilitate our students in finding jobs and obtaining better career advancement opportunities in the future.

Instructional approach

Combining field trips with classroom teaching

Course Teaching & Learning Activities and Expected Study Hours

Course Teaching and Learning Activities

Expected Study Hours

Pre-Trip:

40 (including **3 pre-visit sessions*** 3 hours per session)

- Lectures, Readings and Class activities

During the Field Trip:

- Symposiums, Visits, Discussions, Presentations
- Individual Field Trip Journal

39 (**13 sessions*** 3 hours per session)
21

Post-Trip:

40

- Final Report on Industry Development and Policy Evaluations

Total

140 hours

Assessment

Class Participation and Attendance: 10%

Individual Field Trip Journal (7 reflections, 1500 words each reflection): 30%

Group Presentation on Industry Development and Policy Evaluations: 10%

Final Report on Industry Development and Policy Evaluations: 40%

Peer Evaluation: 10%

Total: 100%

Learning Outcomes and Alignment of PPOL TPG programs:

	Course Intended Learning Outcomes	Nature of the learning outcomes (A – Knowledge/Content Related; B – Academic Skills/Competencies; C – Others)
<u>Master of Public Policy</u>		
1	Adopt interdisciplinary perspectives on global policy challenges and innovative solutions	A,B,C
2	Competently apply appropriate analytical tools for problem-solving in the real world	A,B,C
3	Establish and employ professional expertise in specialization areas of their choices	A,B,C
4	Develop and apply managerial acumen essential for future leaders in public and private sectors	A,B,C
<u>Master of Public Management</u>		
5	Deploy, in a variety of different policy-relevant contexts, the necessary academic and management tools to develop their leadership potential	N/A
6	Analyze and manage complex multi-dimensional policy and managerial issues	N/A
7	Demonstrate a strong appreciation and capacity in policy analysis and management while addressing analytical, operational and political challenges.	N/A

Course Schedule (Tentative, each session is 3 hours, 14 sessions in total.)

Date	Topic	Activity
Session 1 (Pre-Trip)	Introduction to the course; Presentations and discussions of pre-class readings.	Prof. Pengyu Zhu and Prof. Timothy Sze will thoroughly delineate the course structure, providing clear explanations of the assessment criteria and the academic standards to be adhered to, thereby setting a framework for the learning outcomes expected throughout the course. In addition, students will make presentations and participate in discussions of pre-class readings (small groups will be formed 2-3 weeks before the course based on the number of students).

Session 2 (Pre-Trip)	Urban economic development theory (Prof. Pengyu Zhu)	Students will explore the essential concepts and dynamics of urban economic growth, culminating in an understanding of underlying theories and the ability to analyze urban development case studies.
Session 3 (Pre-Trip)	The Theory and Practice of Urban Planning (Prof. Pengyu Zhu)	Instructor will interpret urban planning exercises, equipping students with the expertise to evaluate planning processes and their effects on urban landscapes and economic development.
Session 4 (During-Trip)	Symposium and Visits: Wuxi's IoT and Big Data Sector (Prof. Pengyu Zhu, Prof. Timothy Sze, and Wuxi Economic Development Zone officials)	Through examining real-world applications during the symposium and company visits, students will gain a practical grasp of how the Internet of Things and big data are revolutionizing the industry.
Session 5 (During-Trip)	Symposium and Visits: Stimulating Novel Productivity in Wuxi (Prof. Pengyu Zhu, Prof. Timothy Sze, and Wuxi Government officials)	The session will assist students in comprehending the comprehensive policies Wuxi implements to nurture innovative industries, as well as the tangible successes these policies have produced.
Session 6 (During-Trip)	Symposium and Visits: New Energy and Semiconductor Industry Insights (Prof. Pengyu Zhu and Industry Leaders)	By studying Wuxi's leading companies, students will directly learn about the advancements and challenges in the new energy and semiconductor sectors, enhancing their understanding of industrial progression.
Session 7 (During-Trip)	Symposium: Urban Industry Evolution – the case of Wuxi city (Prof. Pengyu Zhu and a guest lecturer from Wuxi University)	In collaboration with Wuxi University, students will participate in scholarly discussions, aiming to construct a nuanced perspective on urban industrial development's impact on society.
Session 8 (During-Trip)	Symposium and Visits: The Suzhou Industrial Park Narrative (Prof. Pengyu Zhu and Suzhou Industrial Park officials)	Students will critically assess the development and operational strategies of the Suzhou Industrial Park, engaging in evaluation of its

		planning, policy, and growth trajectory.
Session 9 (During-Trip)	Symposium and Visits: Innovations in Suzhou Nanomaterials (Prof. Pengyu Zhu and Industry Leaders)	Focused company tours will enable learners to study the cutting-edge developments within the nanomaterials industry and their implications for broader technological advancements.
Session 10 (During-Trip)	Symposium and Visits: Pudong New District's Urban Evolution (Prof. Pengyu Zhu, Prof. Timothy Sze, and Pudong New District officials)	Direct interaction with Pudong's urban planning initiatives will provide students with exposure to sustainable development practices and integrated public art installations, facilitating a holistic assessment.
Session 11 (During-Trip)	Symposium and Visits: Commerce in the Sky (Prof. Pengyu Zhu, Shanghai COMAC representatives and managers)	Insights from Shanghai COMAC will give students a forward-looking analysis of the commercial passenger aircraft industry, including its potential directions and innovations.
Session 12 (During-Trip)	Symposium and Visits: The Pulse of Shanghai's Digital Finance (Prof. Pengyu Zhu and industry experts)	Students will develop an understanding of digital finance's role and its challenges within the global context by engaging in critical discussions with industry experts.
Session 13 (During-Trip)	Symposium and Visits: Shanghai's urban industrial layout and planning (Prof. Pengyu Zhu and Officials from Shanghai Housing and Urban-Rural Development Bureau)	Officials from Shanghai will give lecture about city's strategic industrial positioning and urban development master plans, unlocking insights into integrated economic and spatial growth.
Session 14 (During-Trip)	Symposium and Visits: Shanghai's scientific and technological development and technology policies (Prof. Pengyu Zhu and Officials from Shanghai Science and Technology Bureau)	Officials from Shanghai will navigate the strategies and frameworks driving technological innovation in this global metropolis. Discover how policy shapes the city's tech landscape, fostering a thriving ecosystem for advancements across sectors.

Session 15 (During-Trip)	Symposium and Visits: Sustainability, technology application and design layout of skyscrapers in Shanghai (Prof. Pengyu Zhu and Officials from Shanghai Science and Technology Bureau)	Officials from Shanghai will introduce how cutting-edge applications shape these skyscrapers and internal layouts. Learn about the advanced architectural techniques and smart systems that support these towering structures' functionality, sustainability, and aesthetic appeal.
Session 16 (During-Trip)	Course overview; Individual Presentations and Discussions of Final Report	As the academic venture concludes, students will synthesize their learning experience into comprehensive presentations, demonstrating their assimilated knowledge and analytical skills relevant to urban industrial and economic development.

Required Reading

Books

Glaeser, E. (2011). *Triumph of the city: How urban spaces make us human*. Pan Macmillan.

Leigh, N. G., & Blakely, E. J. (2016). *Planning local economic development: Theory and practice*. SAGE publications.

Gereffi, G. (2019). Economic upgrading in global value chains. *Handbook on global value chains*, 240-254.

Journal Articles and Policy Reports

KAGAWA, T., & CHU, J.(1999). Planning and Development of Pudong New Area in Shanghai. *立命館地理学* 11 15-28.

Bozeman, B. (2000). Technology transfer and public policy: a review of research and theory. *Research policy*, 29(4-5), 627-655.

Ding, C., & Lichtenberg, E. (2011). Land and urban economic growth in China. *Journal of Regional Science*, 51(2), 299-317.

Bathrellos, G. D., Gaki-Papanastassiou, K., Skilodimou, H. D., Papanastassiou, D., & Chousianitis, K. G. (2012). Potential suitability for urban planning and industry development using natural hazard maps and geological–geomorphological parameters. *Environmental earth sciences*, 66, 537-548.

Martin, B. R. (2012). The evolution of science policy and innovation studies. *Research policy*, 41(7), 1219-1239.

Yu, C., Dijkema, G. P., De Jong, M., & Shi, H. (2015). From an eco-industrial park towards an eco-city: a case study in Suzhou, China. *Journal of Cleaner Production*, 102, 264-274.

Gereffi, G., & Lee, J. (2016). Economic and social upgrading in global value chains and industrial clusters: Why governance matters. *Journal of business ethics*, 133(1), 25-38.

Dong, L., Fujita, T., Dai, M., Geng, Y., Ren, J., Fujii, M., ... & Ohnishi, S. (2016). Towards preventative eco-industrial development: an industrial and urban symbiosis case in one typical industrial city in China. *Journal of Cleaner Production*, 114, 387-400.

Aharonson, B. S., & Schilling, M. A. (2016). Mapping the technological landscape: Measuring technology distance, technological footprints, and technology evolution. *Research Policy*, 45(1), 81-96.

Schmidt, T. S., & Sewerin, S. (2017). Technology as a driver of climate and energy politics. *Nature Energy*, 2(6), 1-3.

Dong, L., Liang, H., Zhang, L., Liu, Z., Gao, Z., & Hu, M. (2017). Highlighting regional eco-industrial development: Life cycle benefits of an urban industrial symbiosis and implications in China. *Ecological Modelling*, 361, 164-176.

Ye, C., Zhu, J., Li, S., Yang, S., & Chen, M. (2019). Assessment and analysis of regional economic collaborative development within an urban agglomeration: Yangtze River Delta as a case study. *Habitat International*, 83, 20-29.

Liu, Y., Zhang, X., Pan, X., Ma, X., & Tang, M. (2020). The spatial integration and coordinated industrial development of urban agglomerations in the Yangtze River Economic Belt, China. *Cities*, 104, 102801.

McLaren, D., & Markusson, N. (2020). The co-evolution of technological promises, modelling, policies and climate change targets. *Nature Climate Change*, 10(5), 392-397.

2022上海科技成果转化白皮书

苏州工业园区关于加快建设世界一流高科技园区的若干政策

无锡科技创新发展报告(2023)

Endorsed by:

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