

# CP8999 Prep-Ph.D. Dissertation

Fall 2026

## Instructor Information

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## Course Description

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Prep-Ph.D. Dissertation is to facilitate a process for Ph.D. students to work on their dissertation framework. It includes the following key dimensions:

1. Problem formulations
2. Research questions and hypotheses
3. Research design, including data inquiry, empirical study and/or simulation modeling
4. A research test bed, and expected findings

## Course Format and Structure

- Midterm – 6 pages in writing, including research questions and research design
- Final – an original term paper, including research experiments, findings and arguments.

## References

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1. Batty, Michael, 2018, *Inventing Future Cities*, MIT Press.
2. Batty, Michael, 2024, *The Computable City*, MIT Press.
3. Lynch, Kevin, 1983, *Good City Form*, MIT Press
4. Yamagata, Y. & Yang, P. P.-J. (eds) *Urban Systems Design: Creating Sustainable Smart Cities in the Internet of Things Era* (Elsevier, 2020).
5. Yang, P. P.-J. & Yamagata, Y. Urban systems design: from “science for design” to “design in science.” *Environ. Plan. B Urban Anal. City Sci.* 46, 1381–1386 (2019).