

Syllabus 2017 Human-Social Information Sciences

Mathematical Urban Modeling

Japanese

■ Basic information

held this year:	yes
instructor(s)	Takashi Akamatsu
room	Civil Engineering and Architecture 203
schedule	The first half year (Wednesday) 13:00-14:30
begins on:	04/12

■ Objectives and outline

See the following page:

<http://www.plan.civil.tohoku.ac.jp/~akamatsu/MathUrban/syllabus.html>

■ Class plan

[Introduction to Spatial Equilibrium Analyses and VIP]

- #01 Introduction to Spatial Economic Analysis
- #02 Spatial Equilibrium Analysis and Variational Inequalities
- #03 Basics of Variational Inequality Theory

[Traffic Network Equilibrium Analyses]

- #04 Traffic Network Equilibrium Analyses (Part I)
- #05 Traffic Network Equilibrium Analyses (Part II)
- #06 Traffic Network Equilibrium Analyses (Part III)
- #07 Spatial Price Equilibrium Analysis

[Location/Migration Equilibrium Analyses]

- #08 Residential Location Equilibrium Analyses (Part I)
- #09 Residential Location Equilibrium Analyses (Part II)
- #10 Location Equilibrium with Interactions among Firms and Workers
- #11 Core-Periphery Regional Equilibrium Models

[VIP approach to Risk Management/Control Problems in Spatial Economy]

- #12 Modelling Dynamic Uncertainty: Stochastic Processes
- #13 Overview of Conventional Real/Financial Option Theory
- #14 VIP approach to Dynamic Risk management Problems

The following alternative program may be given,
depending on the students' interests:

[Spatial General Equilibrium Analyses]

- #12 Multi-Regional Spatial General Equilibrium Models (Part I)
- #13 Multi-Regional Spatial General Equilibrium Models (Part II)
- #14 VIP approach to Dynamic Equilibrium Modeling

■ Evaluation

See the following page:

<http://www.plan.civil.tohoku.ac.jp/~akamatsu/MathUrban/syllabus.html>

■ Textbook(s)

See the following page:

<http://www.plan.civil.tohoku.ac.jp/~akamatsu/MathUrban/MUM%2707-R%28E%29.html>

■ **Web site**

<http://www.plan.civil.tohoku.ac.jp/~akamatsu/MathUrban/syllabus.html>

■ **Office hours**

Wednesday 14:30~15:30

■ **Other information**

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