

**Transportation and Urban Design Studio (E)
for Graduate School of Civil Engineering in 2021 Autumn Semester (A1)**

Lecture website: <http://bin.t.u-tokyo.ac.jp/tuds2021/>

Lecturers: Prof. Eiji Hato*, Prof. Takamasa Iryo*, Prof. Ryuichi Shibasaki**, Prof. Junji Urata***, Dr. Muhammad Awais Shafique****

* Professor, Transport Research and Infrastructure Planning (TRIP) Lab.

** Associate Professor, Department of Systems Innovation, School of Engineering.

*** Assistant Professor, Transport Research and Infrastructure Planning (TRIP) Lab.

**** Researcher, The International Centre for Numerical Methods in Engineering.

1. Survey about your situation:

We want to know your current situation via this survey.

Survey: <https://forms.gle/9Qd2SN5GeCSK5tnBA>

2. Place and Time:

Online, on Monday and Thursdays 13:00-14:45 JST, from Oct. 4 to November 15

Please check the online URL from ITC-LMS.

The class's URL: <https://itc-lms.ecc.u-tokyo.ac.jp/lms/course/syllabus?idnumber=20213713-0970C01>

3. Purpose and Contents of the Course:

This course focuses on learning some of methodologies to analyze transportations and regions, which are sometimes vulnerable to natural hazards. In addition to it, getting used to the essence of the basic way of theoretical and mathematical thinking in planning is another main target. For fulfilling these purposes, we choose four topics: 1) Traffic flow modelling, 2) Logistics management and analysis, 3) Statistics and Machine Learning, 4) Travel behavior modelling.

4. Schedule of the Course:

Topic 1: Transportation Modelling and Statistics, by Prof. Urata and Prof. Hato

On Oct. 7, 11, 18, 28

Topic 2: Traffic Flow Theory and Network Modelling, by Prof. Iryo and Prof. Hato

On Oct. 14, 21, 25

Topic 3: Statistics and Machine Learning, by Dr. Shafique and Prof. Hato

On Oct. 26, 28, Nov. 2 (from 5pm JST to 6:30pm JST)

Topic 4: Global Logistics Modelling & Analysis, by Prof. Shibasaki and Prof. Hato

On Nov. 8, 11, 15

01) Oct. 4 Introduction

02) Oct. 7 [Topic 1] Travel Behavior Modelling (1)

03) Oct. 11 [Topic 1] Travel Behavior Modelling (2)

04) Oct. 14 [Topic 2] Traffic Flow Theory and Network Modelling (1)

~~05) Oct. 18 [Topic 1] Travel Behavior Modelling (3) & Introduction to Machine Learning~~

Groupwork day: Prof. Urata is on zoom. Please come in if you have a question

- 05) Oct. 21 [Topic 2] Traffic Flow Theory and Network Modelling (2)
- 06) Oct. 25 [Topic 2] Traffic Flow Theory and Network Modelling (3) & Exercise
- 07) Oct. 26* [Topic 3] Introduction to Machine Learning
- 08) Oct. 28 [Topic 1] Presentation (Travel Behavior Modelling (3))
- 09) Oct. 28* [Topic 3] Machine Learning vs. Discrete Choice Modelling
- 10) Nov. 2* [Topic 3] Travel Mode Detection using Machine Learning & Exercise
- 11) Nov. 8 [Topic 4] Global Logistics Modelling & Analysis (1)
- 12) Nov. 11 [Topic 4] Global Logistics Modelling & Analysis (2)
- 13) Nov. 15 [Topic 4] Global Logistics Modelling & Analysis (3)

* Start from 5pm to 6:30pm. We provide the lecture's video if you cannot attend.

5. Evaluation of the Achievement

Assignments in each of the four topics (22 points @ 4), and attendance points for classes (12 points)

* Your attendance is confirmed using the history function of zoom. Please use your name when you participate.

Please let Prof. Urata know if you cannot attend on-time because of covid-19-entry-problem. We share the lecture video, and set other way for attendance point.

6. Questions

Please ask Prof. Urata if you have a question about the class.

We can provide video which is recorded the talk when your attendance is interrupt by internet-connection problem. Please contact to Prof. Urata as soon as possible when you have a trouble.

Urata's e-mail address: urata{at}bin.t.u-tokyo.ac.jp