PLAN 548S
Infrastructure Planning and Smart Cities
Course Syllabus

<table>
<thead>
<tr>
<th>Course Number</th>
<th>PLAN 548S</th>
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<tr>
<td>Course Credit(s)</td>
<td>3.0 (39-hrs teaching time)</td>
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<tr>
<td>Course Title</td>
<td>Current Issues in Planning: Infrastructure Planning and Smart Cities</td>
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<td>Term</td>
<td>2019 Summer, Term 2</td>
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| Dates/Times | July 9 – August 6, 2019
Tue/Wed/Thu – 10:30a to 1:30 p
Last class is Tue.Aug.6th |

Instructor | Martino Tran |
Office | West Mall Annex – Room 233 |
Telephone | |
Email | martino.tran@ubc.ca |
Office Hours | By appointment |

Short Course Description:
Major drivers of change are influencing global cities including urbanization, climate change and disruptive technology. At the same time, large future investments in infrastructure are required to improve the sustainability and liveability of cities. This class will explore the major drivers of urban change, assess the latest advancements in understanding the societal and physical implications of urban infrastructure; and understand how that is being influenced by disruptive technology and the broader smart city movement.

Course Prerequisites
Graduate level standing in any program.

Course Format
This course will be delivered through weekly lectures on Tuesdays, Wednesdays and Thursday followed by extensive group discussions; with expectations that students will also lead discussions based on assigned readings. The course will include key readings, real-world case-studies, and in-class discussion. Students will be expected to demonstrate technical competence, and constructing critical arguments based on data analysis. Class participation, an individual paper based on review of academic literature and group project presentation and report comprise the final grade (See below).

Course Overview, Content and Objectives
The objective of this course is to provide students with an understanding of the latest advancements and broader societal implications of urban technology and smart infrastructure. The course will review macro level drivers of urban change including population growth, climate change and sustainability. It will also review metrics and indicators for measuring the performance of cities in the context of technology efficiency, economic growth and urban equity and quality of life. The course will also cover concepts from
data science, and systems analysis for urban infrastructure planning; and how that is being impacted by the broader smart cities movement.

**Learning Outcomes**

After taking this course students will be able to:

- Understand macro-level drivers of change and the social, economic and physical impacts on cities;
- Understand emerging trends, theories and debates on the societal and physical implications of new disruptive technology and urban infrastructure;
- Understand the basics of metrics, indicators and methods for infrastructure planning and technology stewardship;
- Understand basic concepts, frameworks and policy debates on data science, AI and disruptive technology; and the implications for urban infrastructure planning.
- Communicate, discuss and debate advanced topics concerning the societal implications of infrastructure planning and smart cities;
- Propose a policy recommendation backed by data and visuals or conceptually design a data-driven solution to an urban challenge related to infrastructure planning and disruptive technology.
- Work effectively in groups and propose a policy or technology solution to a generally informed audience.

**Attendance**

Attendance of all lectures and tutorials is mandatory.

**Course Assignments and Evaluation**

- 25% Participation (individual and group led discussions)
- 25% Individual Technical Paper (review of literature on topic related to lecture material)
- 50% Group project (Includes several milestones, practice presentation, final presentation, group report and executive summary).

**Grading Rubric**

Each assignment earns marks according to the rubric below, to reach a maximum of 100%.

- 40% Is it complete and on time, following all instructions without plagiarizing?
- 20% Is it easily readable/understandable?
- 10% Does it demonstrate that the student understood course concepts?
- 10% Does the student use sources of information well?
- 10% Is it creative or critical?
- 5% Are there no minor errors (grammar, spelling, etc.)?
- 5% Is it interesting?

**Late Work**

Work submitted late without pre-approval from the instructor will result in a penalty starting at 10% and increasing cumulatively by 3% per day thereafter. Some assignments may not be accepted past the due date, so please check with the instructor in advance.
Special Needs
Please inform the course instructor as soon as possible if you have special needs and require accommodation of any kind. Please visit http://www.students.ubc.ca/access/ for more information on campus resources.

Academic Integrity
The academic enterprise is founded on honesty, civility, and integrity. As members of this enterprise, all students are expected to know, understand, and follow the codes of conduct regarding academic integrity. At the most basic level, this means submitting only original work done by you and acknowledging all sources of information or ideas and attributing them to others as required. This also means you should not cheat, copy, or mislead others about what is your work. Violations of academic integrity (i.e., misconduct) lead to the breakdown of the academic enterprise, and therefore serious consequences arise and harsh sanctions are imposed. For example, incidences of plagiarism or cheating may result in a mark of zero on the assignment or exam and more serious consequences may apply if the matter is referred to the President’s Advisory Committee on Student Discipline. Careful records are kept in order to monitor and prevent recurrences.

A more detailed description of academic integrity, including the University’s policies and procedures, may be found in the Academic Calendar http://calendar.ubc.ca/vancouver/index.cfm?tree=3,54,111,0.