Course Number | URSY 520  
Course Credit(s) | 3.0  
Course Title | Urban Systems Analysis & Planning  
Term | 2017-2018 – Winter Term 2  
Days/Times | Tuesday/Thursday – 10:30am to 12:00pm  

Instructor | Martino Tran  
Office | Rm 250 Westmall Annex  
Telephone | 604-617-5492  
Email | Martino.tran@ubc.ca  
Office Hours | By appointment  

**Short Course Description**
Planning for engineers. Systems theory and analysis. Demand-side planning: population and demand modeling; demand management. Supply-side planning: long term planning, strategic planning, scenario analysis. Urban data, metrics, indicators and integrated assessment modeling. *This course is not eligible for Credit/D/Fail grading.*

**Course Format**
This course is delivered through lectures, readings, class discussions and focuses on a major group project implementation and evaluation.

**Course Overview, Content and Objectives**
This course explores theoretical frameworks and quantitative methods for infrastructure systems analysis and planning. This course is focuses on a major group project implementation and evaluation (“the Project Simulator”) using data driven scenario analysis and modelling to devise and plan alternative future infrastructure investment strategies for a city-wide case-study.

**Learning Outcomes**
After completing this course, students will be able to:

- Apply systems theory and quantitative methods including data driven scenario analysis, modelling and multi-attribute (economic and environmental) impact assessment;
- Analyze macro level drivers and impacts on infrastructure service demand and capacity including population, demographics, macroeconomics, environment and climate change;
- Develop cross-sector and sector specific (energy, transport, water, solid waste, ICT) infrastructure performance metrics;
- Implement team work, leadership and project management skills acquired from Sauder platform courses;
- Provide effective, timely and constructive feedback on project milestones/deliverables to project teams;
- Communicate results effectively to a stakeholder/public audience.
**Additional Course Requirements**
N/A

**Evaluation Criteria and Grading**
The course is graded on a numeric percentage with 60% constituting a pass.
Grading breakdown:
- Project Report 50%
- Project Evaluation 30%
- Project Communication 20%

**Required Readings and Videos**
Text (not mandatory):

**Recommended Readings**

**Course Schedule**

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<th>Week 1</th>
<th>Urban systems challenges and opportunities</th>
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<td>Week 2</td>
<td>Scenario analysis and long-range planning methods</td>
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<td>Week 3</td>
<td>Systems theory, analysis and engineering</td>
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<td>Week 12</td>
<td>Final projects &amp; evaluation</td>
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**Special Needs**

**Academic Integrity**

1 Assistance with the creation of a course syllabus is available through the Centre for Teaching, Learning and Technology, [www.ctlt.ubc.ca](http://www.ctlt.ubc.ca) Resources related to the development of assessable learning outcomes can be accessed through [http://ctlt.ubc.ca/resources/webliography/course-designdevelopment/](http://ctlt.ubc.ca/resources/webliography/course-designdevelopment/) 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 at [http://calendar.ubc.ca/vancouver/index.cfm?tree=3,54,111,0](http://calendar.ubc.ca/vancouver/index.cfm?tree=3,54,111,0).