

COURSE CONTENT

Academic Year	AY2019-20	Semester	2
Course Coordinator	Assoc Prof Wong Yiik Diew		
Course Code	SU4001		
Course Title	Leaders in Urban Systems and Policy		
Pre-requisites	Nil		
No of AUs	3		
Contact Hours	Total : 39 Hours (Lectures: 33 hours and Field Study: 6 hours)		
Proposal Date	31 Oct 2019		

Course Aims

This course gathers a pool of leaders in the field of Urban Systems and Policy to share their experiences in the development of sustainable cities. Distinguished speakers shall be invited to share with you their vast experiences in providing urban planning strategies.

Intended Learning Outcomes (ILO)

By the end of this course, the student shall be able to:

1. identify the variety and complexity of urban systems;
2. identify factors associated with urban transformation;
3. examine the constraints and challenges in developing urban systems;
4. discuss and reflect on how innovative planning and policy-making skills are applied to solve urban problems;
5. make more informed decisions when evaluating a city for urban sustainability.

Course Contents

S/N	Topic	Lecture	Field Study
1	Overview of Urban Systems, Policy and Planning	3	
2	Integrating Master Planning and Development in Urban Systems	3	
3	Field studies on the developments of sustainable cities		6
4	Series of presentations by distinguished urban leaders on topics in urban systems & policy. Topics shall cover major issues in urban systems, such as housing, urban transportation, water supply, virtual Singapore, green buildings, port city, international maritime centre, energy supply, conservation & heritage, etc. Offered topics shall be varied from year to year to leverage on diversity of relevant issues as well as availability of speakers.	24	
5	Future Challenges; Overseas Developments	3	
	Total Hours	33	6

Assessment (continuous assessment only)

Component	Course LO Tested	* Related Programme LO or Graduate Attributes	Weightage	Team / Individual	Assessment Rubrics
1. Continuous Assessment: Quiz	1, 2, 3 (in above ILO section)	CVE SLO (2018) : f, g, h	30%	Individual	Appendix 1
2. Continuous Assessment: Term Paper	All (in above ILO section)	CVE SLO (2018) : f, g, h, j	30%	Individual	Appendix 2
3. Continuous Assessment: Visit Report 1	All (in above ILO section)	CVE SLO (2018) : f, g, h, j	20%	Individual	Appendix 3
4. Continuous Assessment: Visit Report 2	All (in above ILO section)	CVE SLO (2018) : f, g, h, j	20%	Individual	Appendix 3
Total			100%		

***CVE SLO (2018)**

- a) **Engineering Knowledge:** Apply the knowledge of mathematics, natural science, engineering fundamentals, and civil engineering specialisation to the solution of complex civil engineering problems.
- b) **Problem Analysis:** Identify, formulate, research literature, and analyse complex civil engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.
- c) **Design/development of Solutions:** Design solutions for complex civil engineering problems and design system components or processes with appropriate consideration for public health and safety, cultural, societal, and environmental considerations.
- d) **Investigation:** Conduct investigations of complex problems using research-based knowledge and methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.
- e) **Modern Tool Usage:** Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modelling to complex civil engineering activities with an understanding of the limitations.
- f) **The Engineer and Society:** Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal, and cultural issues and the consequent responsibilities relevant to the professional engineering practice.

- g) **Environment and Sustainability:** Understand the impact of the professional engineering solutions in societal and environmental contexts, and the need for the sustainable development.
- h) **Ethics:** Apply ethical principles and commit to professional and moral responsibilities in the civil engineering practice.
- i) **Individual and Team Work:** Function effectively as an individual, and as a member or leader in diverse teams and in multidisciplinary settings.
- j) **Communication:** Communicate effectively on complex civil engineering activities with the engineering community and with society at large, be able to comprehend and write effective reports and design documentation, and make effective presentations.
- k) **Project Management and Finance:** Demonstrate knowledge and understanding of the engineering and management principles and economic decision-making, and apply these to work, as a member and leader in a multidisciplinary team.
- l) **Life-long Learning:** Recognise the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological evolution.

Formative feedback

Instructors take questions during and at end of lectures, and provide on-the-spot clarifications. You (students) can also confer with instructors at tutorials/discussions, at appointed consultations or via email.

You (students) are assessed on one 60-minute Quiz consisting of short questions/answers; feedbacks are given for the quiz in terms of summary quiz scores.

You (students) shall participate in field studies during whence there shall be questions-and-answers, as and when issues arise.

Learning and Teaching approach

Approach	How does this approach support students in achieving the learning outcomes?
Lectures	Lecture sessions are conducted to whole class in lecture theatre. Instructors take questions during and at end of the lectures, and shall provide on-the-spot clarifications. Furthermore, you (students) can confer with instructors via emails or appointed face-to-face consultations. All these enhance the achievement of targeted learning outcomes.
Reports	You (students) shall write three individual reports namely, one term paper, and two reports on the two field studies. For the term paper, you shall scope the problem, collect and analyse the information/data, and write a report to be submitted by Week 10. For the field studies, you shall report on the field

observations and your reflection about these field studies. These reports shall cover cases in real settings which strengthen the learning outcomes.

Reading and References

General References: Centre for Liveable Cities (CLC) publications, available on-line at <https://www.clc.gov.sg/research-publications/publications/urban-systems-studies>

Centre for Liveable Cities (CLC)'s Publications Resources:

- Urban System Studies series;
- Better Cities series;
- Urban Solutions series;
- Commentaries, Reports, and Contributions.

Supplementary reading materials are provided by instructors.

Course Policies and Student Responsibilities

As a student of the course, you are required to abide by both the University Code of Conduct and the Student Code of Conduct. The Codes provide information on the responsibilities of all NTU students, as well as examples of misconduct and details about how students can report suspected misconduct. The university also has the Student Mental Health Policy. The Policy states the University's commitment to providing a supportive environment for the holistic development of students, including the improvement of mental health and wellbeing. These policies and codes concerning students can be found in the following link.

<http://www.ntu.edu.sg/SAO/Pages/Policies-concerning-students.aspx>

Academic Integrity

Good academic work depends on honesty and ethical behaviour. The quality of your work as a student relies on adhering to the principles of academic integrity and to the NTU Honour Code, a set of values shared by the whole university community. Truth, Trust and Justice are at the core of NTU's shared values.

As a student, it is important that you recognise your responsibilities in understanding and applying the principles of academic integrity in all the work you do at NTU. Not knowing what is involved in maintaining academic integrity does not excuse academic dishonesty. You need to actively equip yourself with strategies to avoid all forms of academic dishonesty, including plagiarism, academic fraud, collusion and cheating. If you are uncertain of the definitions of any of these terms, you should go to the [academic integrity website](#) for more information. Consult your instructor(s) if you need any clarification about the requirements of academic integrity in the course.

Course Instructors AY2019/20

Instructors	Office Location	Phone	Email
Assoc/P Wong Yiik Diew	N1-01b-51	6790 5250	cydwong@ntu.edu.sg
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Prof Ng Wun Jern	N1-01a-13	6790 4736	WJNg@ntu.edu.sg

Planned Weekly Schedule

Week	Topic	Course Intended Learning Outcomes	Learning Activities
1	Overview of Urban Systems, Policy and Planning	All (1, 2, 3, 4, 5 in above ILO section)	Lecture 3hr
2	Integrating Master Planning and Development in Urban Systems	All (1, 2, 3, 4, 5 in above ILO section)	Lecture 3hr
3	Visit to Singapore City Gallery	All (1, 2, 3, 4, 5 in above ILO section)	Field Study 3hr
4	Urban Transportation	All (1, 2, 3, 4, 5 in above ILO section)	Lecture 3hr
5	Port City	All (1, 2, 3, 4, 5 in above ILO section)	Lecture 3hr
6	Sustainable Development and Green Building	All (1, 2, 3, 4, 5 in above ILO section)	Lecture 3hr
7	Housing a Nation	All (1, 2, 3, 4, 5 in above ILO section)	Lecture 3hr
8	Solid Waste Management in Singapore	All (1, 2, 3, 4, 5 in above ILO section)	Lecture 3hr
9	Flood Resilience and Climate Change	All (1, 2, 3, 4, 5 in above ILO section)	Lecture 3hr
10	Supply / Recycling of Water Resources	All (1, 2, 3, 4, 5 in above ILO section)	Lecture 3hr
11	Visit LIVINGSPACE–HDB’s Visitors’ Gallery @ HDB Hub	All (1, 2, 3, 4, 5 in above ILO section)	Field Study 3hr
12	Virtual Singapore	All (1, 2, 3, 4, 5 in above ILO section)	Lecture 3hr
13	Future Challenges; Overseas Developments	All (1, 2, 3, 4, 5 in above ILO section)	Lecture 3hr
	Total hours		39 hrs

Appendix 1: Assessment for Quiz (30%)

It is a 60-minute closed-book quiz (weightage: 30%) that covers ILO 1-3. Questions are short questions/answers format. Marks are indicated for each question. The quiz shall be conducted towards the end of the semester.

Appendix 2: Assessment for Individual Term Paper (30%)

It is a term paper based on a topic approved by course co-ordinator. The topics covers ILO 1-5. You (student) will write an individual report, to be submitted in Week 10 (weightage: 30%). The report shall be 2000-word length, supplemented by appendices containing supporting information/data. The assessment is covered by the following marking scheme.

Criteria	Good (8-10)	Ave (6-7)	Fair (4-5)	Poor (1-3)	Remarks
Report generated by Turnitin	Within acceptable degree of originality? (Yes/No)				Fresh report, in case of too many commonalities.
Background/ Objective/ Purpose (15%)					Accurate contextualisation of background and description. Well defined issues; clear objectives.
Methodology/ Information / Data Collection (25%)					Ability and independence in acquiring relevant information/data for the study. Good information/data visualisation, as provided in Appendices of report.
Results and Discussion (25%)					Well-presented results with discussion, showing ability to understand problem, interpret information obtained, and be cognisant of imitations.
Conclusions and Recommendations (20%)					Summarise report clearly and show ability to make appropriate and relevant conclusions, with clear and workable recommendations.
References and Report Format (15%)					Report is clear and concise; good grammar and spelling with appropriate tables/ graphs/ figures. Report is presented well with logical sequence.
TOTAL (100%)					

Appendix 3: Assessment of Field Study with Individual Report (20%)

It is a report to document your (student's) learning experience of each field study. You will write an individual report, to be submitted within two weeks after completion of each field study (weightage: 20%). The report shall be 1200-word length, supplemented by appendices containing supporting information. The assessment is covered by the following marking scheme.

Criteria	Good (8-10)	Ave (6-7)	Fair (4-5)	Poor (1-3)	Remarks
Report generated by Turnitin	Within acceptable degree of originality? (Yes/No)				Fresh report in case of too many commonalities.
Background/ Objective/ Purpose (20%)					Accurate contextualisation of field study. Well defined scope of visit; objectives clearly stated.
Information about visit site (20%)					Ability and independence in acquiring relevant information about the visit site.
Field observations (20%)					Well-presented descriptions showing ability to understand planning practices. Be cognisant of constraints.
Reflection of visit experience (20%)					Summarise key issues clearly, and show ability to highlight pertinent aspects of visit.
References and Report Format (20%)					Report is clear and concise; good grammar and spelling with appropriate photographs. Report is presented well with a logical sequence
TOTAL (100%)					