

COURSE CONTENT

Academic Year	2019-2020	Semester	2
Course Coordinator	A/P WANG ZHIWEI		
Course Code	SU2001		
Course Title	Urban Planning & Design		
Pre-requisites	NIL		
No of AUs	3		
Contact Hours	Total: 39 Hours (Lecture: 26 hours; Tutorial: 13 hours)		
Proposal Date	18 Feb 2020		

Course Aims

This course aims to share with students the basic knowledge of urban planning and design in dealing with its sustainable urban built environment challenges - the rationale for, the process of, the emergence and growth of urban built environment from a natural environment to an urban setting. It enables you to have an understanding and appreciation of the physical, environmental, economic, political and social issues; and implications of how properties, buildings and infrastructure are planned and designed, developed and managed, given the constraints that each period of urbanization faced. Through this course, it is expected that you would have interests in developing alternative views on how the urban built environment can help a city to prosper, thrive and remain relevant in the region.

Course Learning Outcomes (Course LO)

By the end of this course, you should be able to:

1. Describe urban planning and design at an introductory level.
2. Apply basic analytical and planning and design skills to solve urban problems.
3. Explain the link between theory and practice of the urban planning and design concepts.

Course Content

S/N	Topic	Lecture Hrs	Tutorial Hrs
1	Urban planning & design in the framework of sustainable city development	12	6
2	Urban planning & design from a sustainable city point of view as well as tools of providing a more liveable city	14	7
Total:		26	13

Components	Course LO tested	Related programme SLO or graduate attributes	weighting	Team/ Individual	Assessment rubrics
1. Final Examination	All	CVE SLOs (a), (b), (c), (g)	60%	Individual	

2. Continuous Assessment 1 : Quiz 1	1, 2, 3	CVE SLOs (a), (b), (c), (g)	20%	Individual	
3. Continuous Assessment 2 : Quiz 2	1, 2, 3	CVE SLOs (a), (b), (c), (g)	20%	Individual	
Total			100%		

*CEE SLOs = Student Learning Outcome For Civil Engineering Programme (Per BEng Civil Engineering Accreditation)

Related Programme LO or Graduate Attributes

- a. **Engineering knowledge:** Apply the knowledge of mathematics, natural science, engineering fundamentals, and an engineering specialisation to the solution of complex engineering problems;
- b. **Problem Analysis:** Identify, formulate, research literature, and analyse complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences;
- c. **Design/development of Solutions:** Design solutions for complex engineering problems and design system components or processes that meet the specified needs 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 research 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 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 demonstrate the knowledge of, and need for the sustainable development.
- h. **Ethics:** Apply ethical principles and commit to professional ethics and responsibilities and norms of the 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 engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.
- k. **Project Management and Finance:** Demonstrate knowledge and understanding of the engineering and management principles and economic decision-making, and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.
- 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 change

Formative feedback

1. Feedback will be through the dissemination of the student's performance in quizzes as well as review of the quiz questions in class.
2. We encourage you to initiate an Individual consultation sessions on your particular learning needs.

Learning and Teaching approach

Approach	How does this approach support students in achieving the learning outcomes?
Lectures	Weekly lectures to provide you with the specific knowledge and techniques to achieve the learning outcome stated above.
Tutorials	Weekly tutorials to enable you to apply the knowledge to solve structured problems. We encourage you to explore alternative approaches and techniques.

Textbooks/References:

1. Carmona, M., Heath, T., Oc, T. & Tiesdell, S., "Public Places – Urban Spaces", 1st Ed. Routledge, 2003.
2. Hall, P., "Cities of Tomorrow: An Intellectual History of Urban Planning and Design", 4th Ed., Wiley, 2014.
3. Larice, M. & Macdonald, E., "The Urban Design Reader", Routledge Urban Reader Series, 2013.
4. Loew, S., "Urban Design Practice: An International Review", 2012.

5. Tiesdell, S. & Carmona, M., “Urban Design Reader”, 1st Ed., Routledge, 2007.
6. Tan, E. K., “Future Cities”, 1st Ed., Media One Publishing, August 2016.
7. Tan, E. K., “Sustainable Built Environment -The Singapore Experiences”, 1st Ed., Pearson 2011.

Course Policies and Student Responsibilities

The standing university policy governing student responsibilities shall apply.
No special policy for this course.

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 recognize 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

Instructor	Office Location	Phone	Email
Gwee Tat Meng Evan			Evan_GWEE@lta.gov.sg
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Planned Weekly Schedule

Week	Topics	Course LO	Activities
1	Introduction to Urban Planning & Design	1, 2, 3	Lectures & Tutorial
2	Fundamental evolution and principles of Urban Planning & Design. The evolution of urban planning - From Sir Howard “Garden City”, to Kelvin Lynch “City Forms” to Louise Law Olmsted Jr. “Emerald Necklace” to the current “Ecocity”	1, 2, 3	Lectures & Tutorial
3	Land use planning – zoning, land use, density, plot ratio, buffers, planning modes (concentric vs. linear)	1, 2, 3	Lectures & Tutorial
4	Urban design and city form – Streetscape, focus, vista, districts.	1, 2, 3	Lectures & Tutorial

5	Environmental planning – Ecology, landscape, heritage, environmental impacts, renewable energies, pollutions, preservation & conservation etc.	1, 2, 3	Lectures & Tutorial
6	Infrastructure planning – Human essentials: water, drainage sewers, power & electricity, transportation etc.	1, 2, 3	Lectures & Tutorial
7	Social-economics and Institutional planning – Facilities for urban living, housing, healthcare, education, religious, working and leisure.	1, 2, 3	Lectures & Tutorial
8	Urban Management- Sustainability and revitalizing, changing demographics and population profile.	1, 2, 3	Lectures & Tutorial
9	Planning for the future – urban trends and new technologies and needs.	1, 2, 3	Lectures & Tutorial
10	Financing urban planning projects – Public funding, private funding, PPP funding.	1, 2, 3	Lectures & Tutorial
11	Urban planning staging and deliverables	1, 2, 3	Lectures & Tutorial
12	Best practices – Guidelines and examples	1, 2, 3	Lectures & Tutorial
13	Summary of integrates urban planning deliverables to achieve livable cities	1, 2, 3	Lectures & Tutorial