

# CA3342: ARCHITECTURE, SMART CITIES AND DESIGN

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## Effective Term

Semester A 2024/25

## Part I Course Overview

### Course Title

Architecture, Smart Cities and Design

### Subject Code

CA - Civil and Architectural Engineering

### Course Number

3342

### Academic Unit

Architecture and Civil Engineering (CA)

### College/School

College of Engineering (EG)

### Course Duration

One Semester

### Credit Units

3

### Level

B1, B2, B3, B4 - Bachelor's Degree

### Medium of Instruction

English

### Medium of Assessment

English

### Prerequisites

Nil

### Precursors

Nil

### Equivalent Courses

Nil

### Exclusive Courses

Nil

## Part II Course Details

### Abstract

The course aims to introduce concepts and issues in urbanism and in design relevant to students of architecture and the built environment, including the role of technology in enabling spatial analysis, production, management and urban life.

### Course Intended Learning Outcomes (CILOs)

| CILOs |                                                                                             | Weighting (if app.) | DEC-A1 | DEC-A2 | DEC-A3 |
|-------|---------------------------------------------------------------------------------------------|---------------------|--------|--------|--------|
| 1     | discuss concepts of cities, and their relationships to urban form and to design;            |                     | x      |        |        |
| 2     | discuss key aspects of urban form, and their relationships to design, urban life and value; |                     | x      | x      |        |
| 3     | identify various urban stakeholders, understand their roles and claims to the city;         |                     | x      | x      | x      |
| 4     | generate simple design solutions;                                                           |                     | x      | x      | x      |
| 5     | describe and analyse design configurations.                                                 |                     | x      | x      | x      |

#### A1: Attitude

Develop an attitude of discovery/innovation/creativity, as demonstrated by students possessing a strong sense of curiosity, asking questions actively, challenging assumptions or engaging in inquiry together with teachers.

#### A2: Ability

Develop the ability/skill needed to discover/innovate/create, as demonstrated by students possessing critical thinking skills to assess ideas, acquiring research skills, synthesizing knowledge across disciplines or applying academic knowledge to real-life problems.

#### A3: Accomplishments

Demonstrate accomplishment of discovery/innovation/creativity through producing /constructing creative works/new artefacts, effective solutions to real-life problems or new processes.

### Learning and Teaching Activities (LTAs)

| LTAs |                               | Brief Description                                                                                  | CILO No.      | Hours/week (if applicable) |
|------|-------------------------------|----------------------------------------------------------------------------------------------------|---------------|----------------------------|
| 1    | Lectures, seminars, workshops | Students will engage in Lecture, seminar or workshops on topics listed in keyword syllabus         | 1, 2, 3, 4, 5 |                            |
| 2    | Fieldwork and practical work  | Students will engage in observations and record of the urban environment, develop design solutions | 3, 4, 5       |                            |

### Assessment Tasks / Activities (ATs)

| ATs |                                  | CILO No.      | Weighting (%) | Remarks (e.g. Parameter for GenAI use) |
|-----|----------------------------------|---------------|---------------|----------------------------------------|
| 1   | Observation and Design Exercises | 3, 4, 5       | 60            |                                        |
| 2   | Reflection Exercise              | 1, 2, 3, 4, 5 | 40            |                                        |

#### Continuous Assessment (%)

100

#### Examination (%)

0

### **Assessment Rubrics (AR)**

#### **Assessment Task**

Observation and Design Exercises

#### **Criterion**

Ability to record urban observations and develop design skills Accomplishment to demonstrate design alternatives

#### **Excellent (A+, A, A-)**

Strong evidence of original thinking; good organization, capacity to analyse and synthesize; superior grasp of subject matter evidence of extensive knowledge base

#### **Good (B+, B, B-)**

Evidence of grasp of subject, some evidence of critical capacity and analytic ability; reasonable understanding of issues; evidence of familiarity with

#### **Fair (C+, C, C-)**

Student who is profiting from the university experience; understanding of the subject; ability to develop solutions to simple problems in the material

#### **Marginal (D)**

Sufficient familiarity with the subject matter to enable the student to progress without repeating the course

#### **Failure (F)**

Little evidence of familiarity with the subject matter; weakness in critical and analytic skills; limited, or irrelevant use of literature.

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#### **Assessment Task**

Reflection Exercise

#### **Criterion**

Attitude to critically challenge conventional strategies in urban design, and in the application of information technology in cities

#### **Excellent (A+, A, A-)**

Strong evidence of original thinking; good organization, capacity to analyse and synthesize; superior grasp of subject matter evidence of extensive knowledge base

#### **Good (B+, B, B-)**

Evidence of grasp of subject, some evidence of critical capacity and analytic ability; reasonable understanding of issues; evidence of familiarity with

#### **Fair (C+, C, C-)**

Student who is profiting from the university experience; understanding of the subject; ability to develop solutions to simple problems in the material

#### **Marginal (D)**

Sufficient familiarity with the subject matter to enable the student to progress without repeating the course

#### **Failure (F)**

Little evidence of familiarity with the subject matter; weakness in critical and analytic skills; limited, or irrelevant use of literature.

## Part III Other Information

### Keyword Syllabus

Contemporary urban design issues around the world; city forms and its relationship to urban structure, movement, space and spatial experience, and how different stakeholders value those experiences; urban design concepts and approaches; techniques for generating city form; street design.

### Reading List

#### Compulsory Readings

| Title |                                                                                                                                                                                                                                                 |
|-------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1     | Carmona, M., Heath, T., Oc, T. and Tiesdell, S., 2012. Public places-Urban spaces. Routledge.                                                                                                                                                   |
| 2     | Cross, N., 2011. Design thinking: Understanding how designers think and work. Berg.                                                                                                                                                             |
| 3     | Gehl, Jan and Svarre, Birgitte (2013) How to Study Public Life, Washington D.C.: Island Press (available at <a href="http://link.springer.com/book/10.5822%2F978-1-61091-525-0">http://link.springer.com/book/10.5822%2F978-1-61091-525-0</a> ) |
| 4     | Homes & Communities Agency (2007) "Urban Design Compendium 1," Urban Design Principle (UDC1), UK: Llewelyn Davies Yeang                                                                                                                         |
| 5     | Jacobs, Jane (1961) "The Life and Death of Great American Cities" New York: Modern Library.                                                                                                                                                     |
| 6     | NACTO (2016) Global Streets Design Guide <a href="https://globaldesigningcities.org/publication/global-street-design-guide/">https://globaldesigningcities.org/publication/global-street-design-guide/</a>                                      |
| 7     | Townsend, A.M., (2013). Smart cities: Big data, civic hackers, and the quest for a new utopia. WW Norton & Company.                                                                                                                             |

#### Additional Readings

| Title |                                                                                                                                                                 |
|-------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1     | Lynch, K., 1960. The image of the city (Vol. 11). MIT press                                                                                                     |
| 2     | Cullen, G., 2012. Concise townscape. Routledge                                                                                                                  |
| 3     | Gehl, J., 2011. Life between buildings: using public space. Island Press.                                                                                       |
| 4     | Lang, Jon (2005) "Urban Design: A typology of Procedures and Products" Oxford; Burlington MA: Elsevier/ Architectural Press.                                    |
| 5     | Larice, Michael and Macdonald, Elizabeth (2006) "The Urban Design Reader" New York: Routledge.                                                                  |
| 6     | Marshall, S., 2012. Science, pseudo-science and urban design. Urban Design International, 17(4), pp.257-271. (this is a critique of some of the seminal texts). |
| 7     | Mumford, E.P. & ProQuest, 2018. Designing the modern city : urbanism since 1850, New Haven, CT: Yale University Press.                                          |
| 8     | Steiner, Frederick et al. (2007) "Planning and Urban Design Standards" Hoboken, N.J: John Wiley & Sons.                                                         |
| 9     | <a href="http://www.pland.gov.hk/pland_en/tech_doc/hkpsg/index.html">http://www.pland.gov.hk/pland_en/tech_doc/hkpsg/index.html</a>                             |
| 10    | Webster, Chris (2007), Property rights, public space and urban design, in Town Planning Review, Vol. 78, Issue 1, pp. 81-101                                    |
| 11    | Chiaradia, A.J., Sieh, L. and Plimmer, F., 2017. Values in urban design: A design studio teaching approach. Design Studies, 49, pp.66-100.                      |