Master of Science in Urban Analytics (MSc(UrbanAnalytics))
Credit Unit Statement

Overview

The Master of Science in Urban Analytics (MSc(UrbanAnalytics)) curriculum consists of three types of course with distinctive teaching and learning objectives. It includes seven Core Courses on Urban Analytics of 42 credits, and a total of 12 credits of Urban Theory Courses. In addition, candidates are required to satisfactorily complete a Dissertation or a Capstone Project. The Capstone Project is comprised of a Smart Planning and Design Studio. All courses bear 6-credits, with the exception of the 15-credit Dissertation/Capstone Project. The programme uses 150 hours of student learning activities (including contact hours) as the norm for the 6-credit courses, and 375 hours of student learning activities (including contact hours) for the 15-credit courses. The three course categories are summarized below.

(1) Urban Analytics Courses

Collectively these courses teach urban data analytical methods, techniques, and their underlying science. Students will learn to use these methods and techniques and evaluate critically the strengths, weaknesses, opportunities, and threats of applying the urban sciences and technologies, and understand the ethical issues involved. Teaching is conducted in lectures (24 contact hours per course) and activities include practical sessions, workshops, case studies, assignments, and reports. The courses are assessed through a combination of continuous coursework assessment (50%-100%) and examination (0%-50%). Assessment methods are decided by the individual teachers to tally with the intended learning outcomes of the courses. Assessment tasks may include the writing of essays and reports of not more than 5,000 words, in-class tests, class participation, teamwork performance, examination and so on.

(2) Urban Theory Courses

These courses are to be selected from a list approved by the Department from time to time. These courses introduce multidisciplinary theories of urban planning and design that help students to understand the influence of urban planning and design in urban development from a global perspective, especially within the context of smart cities development and emerging urban sciences and technologies. They also identify key urban issues that will benefit from planning and design interventions involving data science and urban analytics tools. Teaching is conducted in lectures (24 contact hours per course), and the course work includes the reading of critical texts, site visits, independent research, case studies and the preparation of assignments, essays, and reports. The courses are assessed through continuous coursework assessment. The teaching pedagogy, deliver format, and assessment methods are similar to those of the core courses.

(3) Dissertation/Capstone Project

Students can choose either a dissertation or a capstone project.

The dissertation aims to provide students with opportunities to integrate the acquired knowledge, skills, and techniques to support and enhance urban policy, or to investigate the urban and societal implications and impacts of changed planning and design practices under the advancement of smart technologies. Contact hours are flexibly agreed between students and supervisors. Each student is assigned a dissertation supervisor from among the teachers contributing to the programme. Briefings on research proposal, research design, and methodology/methods will be provided to facilitate dissertation preparation. Individual students are required to defend their research proposals and regularly report their progress to their assigned supervisors. It is assessed through continuous assessment and the dissertation should be between 15,000 to 20,000 words in length. The examiners may prescribe an oral examination of the subject of the dissertation.

The capstone project is professionally and solution-oriented. It is delivered as a smart planning and design studio. The studio is problem-based and involves experiential learning and team work inside and outside of the classroom. Class contact hours are normally 60 hours in total. It involves intensive research, field work, primary and secondary data collection and analysis, including big and open data where appropriate and available, application of urban science techniques to planning and design, and formulation of planning, design and policy solutions and actions. Presentations and visualization skills will also be applied. Coursework and individual and group assignments are continuously assessed (100%), involving the production of a final group studio report of about 20,000 words.