香港中文大學太空與地球信息科學研究所
INSTITUTE OF SPACE & EARTH INFORMATION SCIENCE CUHK

地理國情監測與公共管理理學碩士
Master of Science in Geo-survey and Public Management

The Chinese University of Hong Kong
香港中文大學

About the Programme

Geo-Survey has become very critical for national, provincial and city governments, especially for public policy studies and public management. Many countries have formed the national agencies for geo-survey, such as US Geological Survey in USA. Chinese government has allocated ￥17 billion to start the geo-survey programme in 2013. Governmental units at every level are demanding new graduates and professionals with an advanced background in Geo-Survey for precise public management.

To meet this growing demand, Institute of Space and Earth Information Science, The Chinese University of Hong Kong, as a leading institute in the field of GeoInformation Science and Earth System Science in Hong Kong, offers the first and unique Master of Science programme in Geo-survey and Public Management in the territory.

Objectives

1. Students get an appreciation of geo-information on national conditions,
2. Be knowledgeable in geo-survey and geo-analysis methods,
3. Be better prepared for public policy studies and precise public management.

Students can study in either one year full-time or two years part-time programme.

The full-time programme provides a platform for experienced professionals or fresh graduates from universities to pursue an intensive course of study. It is expected to attract non-local students coming from Mainland China, Southeastern Asia and other parts of the world.

The part-time programme provides a flexible mode of study for local civil servants and commercial and academic professionals to pursue this degree.

Upon successful completion of this program, Students should be able to:

1. Select a proper method for related data collection of geo-survey,
2. Present and interpret the results of geo-survey with a proper geo-analysis method,
3. Participate in the planning work on early warning and crisis management, and
4. Analyze the public policies with geo-spatial modeling and geo-analysis methods.

Teaching Staff

Prof. KWAN Mei-Po

- Geographic Information Science
- Society, Space and Environments
- Urban and Health Applications

Prof. YIM Hung Lam, Steve

- Regional and Urban Air Quality
- Urban Climatology
- Volcanic eruptions and climatic variability

Prof. MA Pei Feng

- INSAR Technology
- Remote Sensing of Environment and Natural Disasters

Dr. LI Rongrong

- Geographic Information Systems
- GIS for Transportation/Logistics
- Spatial Optimization
- Remote Sensing Applications

Dr. DEVLIN Adam Thomas

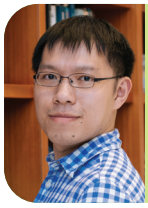
- Physical Oceanography and Ocean Tides

Prof. MAK Ann

- GIS and its application

Dr. WONG Chun, Janice

- Correlations between urban form and urban economy
- Methodology of urban planning
- Urban and regional planning
- Urban networks



Dr. LI Gang

- SAR Remote Sensing and INSAR Application

Who should apply?

- Anyone working in the geo-survey and geo-analysis for the precise natural resource management and environmental assessment, integrated development planning and public policy making, government agencies, and private sectors in China (including Hong Kong SAR) and other developing countries, and ASEAN countries in particular.
- Professionals who use information related to population and economic census, agriculture productivity, public services, education, environmental issues and public health, crime analysis, technological spillover, etc..
- University professionals and high school teachers who want to acquire an interdisciplinary and integrated understanding of national geo-survey and geo-analysis to better educate the next generation governmental functionary and professionals.

Programme Structure

The full-time MSc programme will cover one year with three semesters.

The part-time MSc programme will cover two years with two semesters in each year and one summer semester in the second year.

Required Courses

Course Code	Course Title	Description	Units
ESGS 5002	Special Topics in GeoInformation Science	This course discusses the principles, structures and applications of geographic information systems. It emphasizes on the use of GIS in organizing and managing spatial data, and how to perform spatial analysis with GIS. Topics include hardware/software components, raster and vector data structures, spatial database, spatial analysis and application issues.	3
ESGS 5011	Introduction to Geo-survey and Public Management	This course provides an overview and hands-on experience in the surveying, mapping, use, and interpretation of geo-survey for supporting the public management, which greatly depend on public policy analysis. Although the study of public management and public policy addresses two subjects that are often treated separately academically, but which in practice are closely inter-related. The course topics covered the both sides: the principles, techniques and methodologies of geo-survey, as well as the foundations of public management which has crucial relationship with policy-making. At the end of the course, students will have a comprehensive knowledge of national geo-survey for supporting the public policy analysis and evaluation, hence the rational and efficient public management.	3
ESGS 5015	Spatial Analysis for Public Management	This course provides an introduction to a wide selection of spatial analytics and their applications in different aspects of public management. The course has two major aims. On the technical front, this course aims to teach students fundamental concepts and recent progress of spatial analysis. On the substantive front, this course integrate the introduction to spatial analytics with their applications in public policies and management, ranging from mapping the inequality among economic and health outcomes, to land use choices, and innovative census from remote sensing and locational based service.	3

Required Courses

Course Code	Course Title	Description	Units
ESGS 5016	Urban Networks	This course introduces the applications of network analysis in understanding social affairs. Facilitated the development of telecommunication and transportation technologies, a city is increasingly organized as connections between and within it. Such connections can take various forms – social, economic, political, and environmental. Therefore this course look at how network analysis can be used to address a number of urban issues, such as how could we define community in an era of human mobility? How do streets layout affect local economy? And what mechanism gives rise to the megacity region such as the Pearl River Delta?	3
ESGS 5017	Geoinformation Technologies for Risk and Crises Management	This course is to inform, explain, analyze, interpret and communicate the role of Geoinformation technologies in EW and CM situations (tsunamis, earthquakes, fires, landslides, anthropogenic disasters) and improvement of their use in adequate operations with aim to show their till now under-evaluated potentials and way how to integrate knowledge of cartographic, geographic, and ITC community to EW and CM into wide decision making process.	3
ESGS 5018	Environmental Remote Sensing Technology	The course helps students to understand remote sensing principles and basic skills in remote sensing image processing and analysis. The students will develop the capability to solve practical problems in the Earth System Science by using remote sensing methods. The theory, methods, and applications of environmental remote sensing are taught in the course. The lectures cover the principles of electromagnetic radiation, satellite observation sensors, digital image processing, Earth target classifications, and the remote sensing applications in land and ocean. ERDAS Imagine software will be used for lab practices.	3
ESGS 6061	Project in Geo-survey and Public Management	Each student is required to carry out an independent research project under the supervision of a teacher.	4

Elective Courses

Course Code	Course Title	Description	Units
ESGS 5001	Earth System Science	This course introduces the concept of the Earth System Science - the study of the Earth as a system consisting of many inter-related and interacting components. The topics of lectures include individual components of the Earth System and their respective roles in the changing system. The emphasis is on interactions among different components of the system-atmosphere, hydrosphere, cryosphere, lithosphere, biosphere, and anthrosphere.	3
ESGS 5003	Transportation Applications of GIS	This course provides an overview and hands-on experience in the design, use, and interpretation of Geographic Information Systems for Transportation. Topics covered include transportation layers, transportation related referencing systems, data structures, network structures, urban transportation planning models and other spatial models. At the end of the course, students will have a sound working knowledge of transportation GIS and an ability to work directly with real-life problems.	3
ESGS 5012	Introduction to Earth Environmental Simulations	The course will introduce numerical simulartion theories and technologies on earth systems which include abiotic complexes of atmosphere, hydrosphere, pedosphere and biotic elements of growth processes and population dynamics. The lectures and tutorials will provide students with basic knowledge on use of High Performance Computing simulations of the earth system dynamics, in particular, the global climate change and the adaptation and risk management.	3
ESGS 5060	Seminars in GeoInformation Science	Earth system science is a study of the Earth as an integrated system with its major components of atmosphere, hydrosphere, lithosphere and biosphere. This seminar course is an open forum which aims at making students acquire up-to-date knowledge and techniques of the Earth system and Geoscience. Well-known scholars, professional, researchers and officials from local institutions and from overseas will be invited to present their latest research and timely topics relevant to Earth System Science.	3

Graduation Requirement

1. Coursework Requirement

a) For Full-time Students:

Students are required to complete 28 units for graduation including 6 required courses, 2 elective courses and project in one year.

Required courses:

ESGS5002, ESGS5011, ESGS5015, ESGS5016, ESGS5017, ESGS5018	18 units

Elective courses:

Any two courses to be chosen from the following:

ESGS5001, ESGS5003, ESGS5012, ESGS5060	6 units

Project in Geo-survey and Public Management:

ESGS6061	4 units

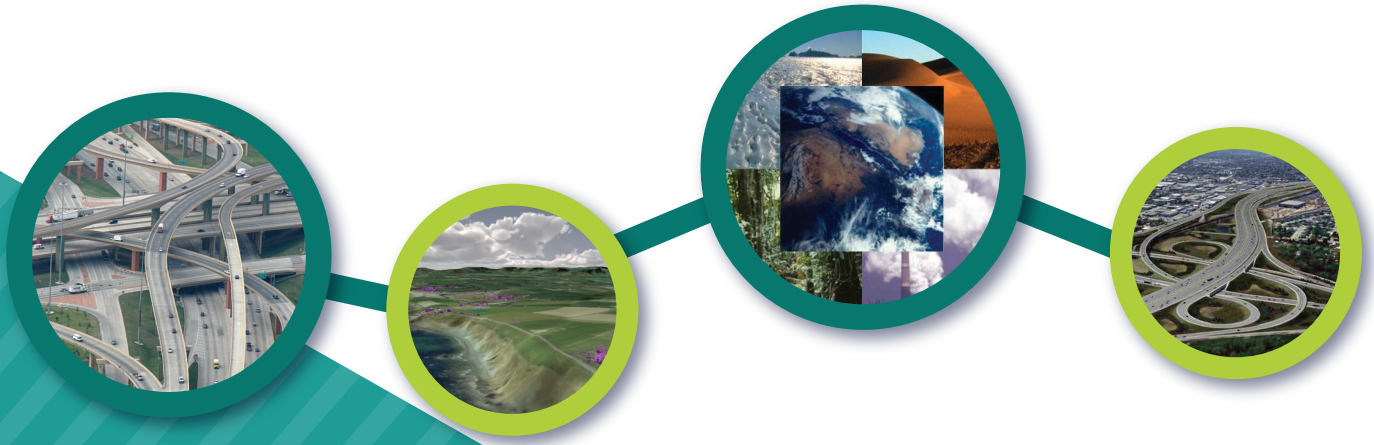
b) For Part-time Students:

Students need to complete 28 units for graduation including 6 required courses, 2 elective courses and a final year project in the second year within two years.

2. GPA Requirement

Minimum Cumulative GPA of 2.0

A student who obtains a cumulative grade point average (GPA) below 2.0 in the preceding term or receives a failure grade in thesis monitoring course (for Research Postgraduate Programmes) will be put on academic probation. For details, please refer to Clause 14.0 "Unsatisfactory Performance and Discontinuation of Studies" of the General Regulations Governing Postgraduate Studies which can be accessed from the Graduate School Homepage: *http://www.gs.cuhk.edu.hk*



Qualifications for Admission

1. Applicants shall have graduated from a recognised university and obtained a Bachelor's degree. (Those who expect to obtain a Bachelor's degree in the current academic year may also apply for admission)
2. All students should fulfill the University's minimum English Language requirements for admission to postgraduate programmes, applicants should have:

a) obtained a degree from a university in Hong Kong or taken a degree programme of which the medium of instruction was English; or

b) achieved scores in the following English Language tests as indicated:

- TOEFL (Paper-based: 550; Computer-based: 213; and Internet-based: 79)*;
- IELTS (Academic) (Band 6.5)*;
- GMAT (Verbal)(Band 21); or

c) obtained a pass grade in English in one of the following examinations:

- Hong Kong Advanced Level Examination (AS Level);
- Hong Kong Higher Level Examination;
- CUHK Matriculation Examination;
- General Certificate of Education Examination (GCE) Advanced Level (A-Level)/Advanced Subsidiary Level (AS-Level); or

d) achieve Level 4 or above in the English Language subject of the Hong Kong Diploma of Secondary Education (HKDSE) Examination; or

e) obtained a recognized professional qualification, provided that the examination was conducted in English.

***TOEFL and IELTS are considered valid for two years from the test date; GMAT is considered valid for five years from the test date.**

Application Procedures

Online application at the homepage of the Graduate School (*http://www.gs.cuhk.edu.hk*)

Application Period

Mid of September - Mid of April

Fee

Please refer to the official website of Master of Science in Geo-survey and Public Management for detailed information.

Tuition fee will be collected in two installments per year.

Official Website of Master of Science in Geo-survey and Public Management:
http://www.iseis.cuhk.edu.hk/en/msgpm.html

Enquiries

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