UCL CENTRE FOR ADVANCED SPATIAL ANALYSIS
THE BARTLETT

UCL

MRes Advanced Spatial Analysis & Visualisation

One Year - Full Time

Part Time option available

APPLY NOW FOR SEPTEMBER 2012 ENTRY

The MRes ASAV reflects the current state of play in geographic, urban and architectural information systems with an emphasis on visualisation, analysis and modelling. Taught at the Centre for Advanced Spatial Analysis, home of digital urban, it is an innovative and exciting opportunity to study at UCL with an MRes acting as a pathway to a PhD or further career in ASAV.

EDUCATIONAL AIMS OF THE PROGRAMME

The programme aims to provide training in the principles and skills of social and spatial research. Its aims include a strong understanding of qualitative and quantitative research methodology and methods of data collection and analysis to support and enable independent and group research projects. In addition to focusing on research skills, subject specific modules provide students with the opportunity to develop an excellence in spatial analysis with the specific skill set to engage and contribute to the current debates in urban and spatial continuums.

HOW TO APPLY

Apply online at **www.ucl.ac.uk/prospective-students/graduate-study/application-admission** or email bartlett.pgclerk@ucl.ac.uk for further details.

ENTRY REQUIREMENTS

A UK Bachelor's degree in an appropriate subject, awarded with First or Upper Second Class Honours, or an overseas qualification of an equivalent standard from a university or educational establishment of university rank. Candidates who hold a professional or other qualification obtained by written examinations and approved by UCL, together with at least three years of appropriate professional experience, may also be admitted to the Degree.

www.casa.ucl.ac.uk

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UCL Centre for Advanced Spatial Analysis ● Gower Street ● London ● England ● WC1E 6BT

There are 6 mandatory modules to the MRes:

SPATIAL MODELLING AND SIMULATION

The module is intended to present an array of modelling techniques and methods as well as producing an awareness of the range of models currently being applied at the city scale. It will develop an expertise in the model-building process within planning and decision support environments; specifically for land-use transportation and CA/ABM. It will not cover geometric models of the CAD or GIS variety which will be developed in other modules and projects related to visualisation but it will develop core visual analytic techniques.

DIGITAL VISUALISATION

This group mini-project aims to introduce the students to specific visualisation and data collection techniques, underline the importance of clear and concise visualisation methods as a way of communicating research outcomes, provide new research led techniques for both data collection and visualisation in spatial terms using emerging web-based technologies and provide students with a relevant intellectual toolkit for future research and professional development.

G.I. SYSTEMS AND SCIENCE

The aim of this module is to equip students with an understanding of the principles underlying the conception, representation/measurement and statistical analysis of spatial phenomena. As such, it presents an overview of the core organising concepts and techniques of Geographic Information Systems, and the software and analysis systems that are integral to their effective deployment in advanced spatial analysis.

KNOWLEDGE POWER

The module introduces the students to routes beyond traditional disciplines to explore core interdisciplinary skills relating to the notions of superconcepts and methodologies on new ways to undertake research. Knowledge Power focuses on a series of key themes and challenges: the knowledge challenge; the knowledge space; beyond disciplines: systems and superconcepts; knowledge development; requisite knowledge; knowledge power and universities; employers in the knowledge economy; and knowledge power: a sea change?

PROFESSIONAL DEVELOPMENT IN PRACTICE

This module aims to develop participants' conceptions of what it means to be a professional; develop participants' understanding of how professional development occurs; develop participants' ability to forward their own professional development; develop participants' abilities to learn from experience with planning, action & reflection.

DISSERTATION

The module runs side-by-side with the other modules on the course to develop the students ability to devise research proposals, collect, analyse data, communicate findings and ultimately write up a self standing piece of work. Further, it develops the students' transferable skills putting them into practice to ensure a strong methodological and professional element to the dissertation. This is viewed as providing a strong basis for preparation for a PhD.

Dr Andrew Hudson-Smith FRSA is Director and Deputy Chair of the UCL Centre for Advanced Spatial Analysis and Director of the MRes in Advanced Spatial Analysis and Visualisation. He is also author of the digitalurban site – **www.digitalurban.org**

Professor Michael Batty CBE FBA FRS is Chairman of CASA which he set up in 1995. His recent books **Cities and Complexity** (MIT Press, Cambridge, MA, 2005) and the edited volume **Virtual Geographic Environments** (Science Press, Beijing, China, 2009) indicate his research interest in developing a science of cities. He is editor of the journal **Environment and Planning B: Planning and Design**.

Sir Alan Wilson FBA FRS is Professor of Urban and Regional Systems. He works on computer models of the evolution of cities and regions and his current research on global dynamics is supported by a £2.5M EPSRC grant. His latest book, **Knowledge Power**, was published last year. A book based on his Principles of Model Design lectures is in preparation for publication in the Autumn.

Dr Martin Zaltz Austwick holds an undergraduate degree in Physics and a PhD in Quantum Computing and Nanotechnology, and spent four years in Medical Laser Physics before joining CASA in 2010.

Dr James Cheshire completed his PhD in the UCL Department of Geography and his interests concern the analysis and visualisation of large population datasets.

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