The Bartlett
School of
Architecture

Space Syntax: Architecture & Cities MRes

Programme Information Sheet

This document provides details of the structure and content of this programme.

Programme context and history

Space Syntax: Architecture & Cities MRes has been developed in close relationship with its sister course Space Syntax: Architecture & Cities MSc. The programme takes a joint theoretical and analytical approach to architecture, urban design and planning in the service of building a better built environment for society.

Central to the curriculum is a powerful approach called space syntax, a theory and a methodology that studies buildings, cities and open spaces in relation to use patterns and cultural meaning. Space syntax augments design intuition, informs the design team and engages constructively in the design process. It provides an established methodology that can be used to explore different scales of architectural space from the smallest domestic setting to whole urban regions and the relationship between them.

Find out more about The Space Syntax Laboratory at UCL

Please note: Applicants to Space Syntax: Architecture & Cities MRes are required to send a 500-1000-word preliminary research proposal along with a personal statement to support their application.
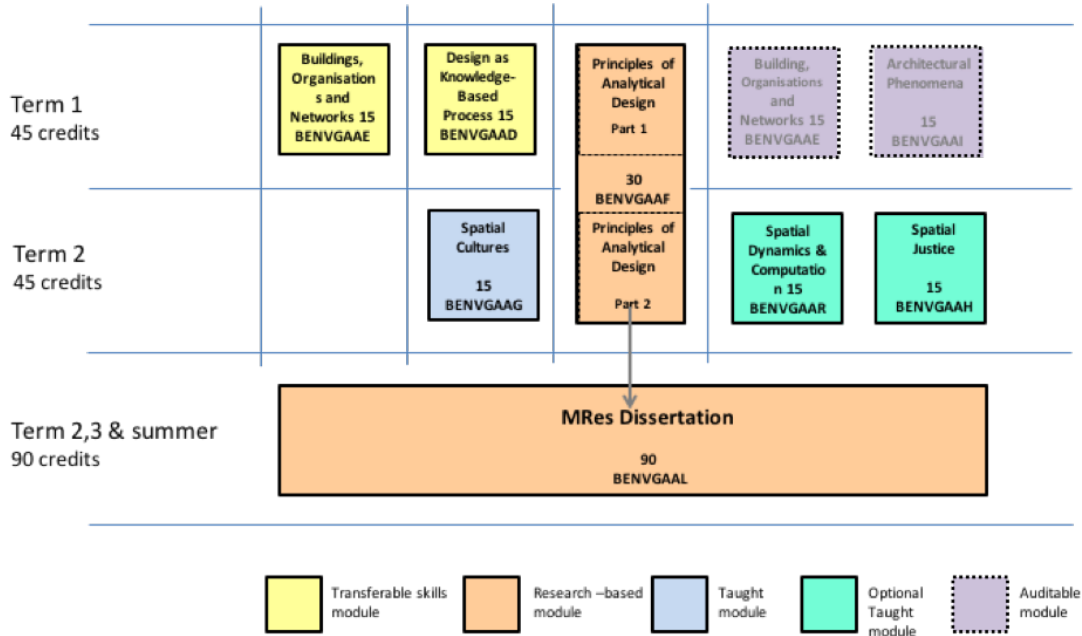
Programme structure

Space Syntax Architecture & Cities MRes is taught over twelve months, from September to September, and has links to other courses at The Bartlett School of Architecture via shared modules and collaborative group research projects.

Teaching is delivered through a combination of seminars, lectures, tutorials, fieldwork, independent project work and workshops. Assessment is through coursework, written and take-home examinations, projects and presentations with an extended dissertation.

The course has the following components:

- A core research component comprising two modules: a dissertation (90 credits, terms 1-4) and the module Principles of Analytical Design (30 credits, terms 1-2)
- A core transferrable skills component in term 1 comprising two modules: Design as a Knowledge-based process (15 credits) and Buildings, Organisations and Networks (15 credits)
- A core taught component comprising one module: Spatial Cultures (15 credits, term 2)
- A flexible taught component comprising one optional module (15 credits, term 2). You can choose either Spatial Justice or Spatial Dynamics and Computation, following the guidance of the Programme Director.

An outline of the structure of the programme can be seen in the table below:

Term 1 45 credits	Buildings, Organisations and Networks 15 BENVGAAE	Design as Knowledge-Based Process 15 BENVGAAD	Principles of Analytical Design Part 1	Building, Organisations and Networks 15 BENVGAAE	Architectural Phenomena 15 BENVGAAI
			30 BENVGAAF		
Term 2 45 credits		Spatial Cultures 15 BENVGAAG	Principles of Analytical Design Part 2	Spatial Dynamics & Computation 15 BENVGAAR	Spatial Justice 15 BENVGAAH
Term 2,3 & summer 90 credits	**MRes Dissertation** 90 BENVGAAL				

■	Transferable skills module	■	Research –based module	■	Taught module	■	Optional Taught module	▢	Auditable module

Programme modules

As a student on the programme, you will specialise in one of several subjects such as buildings and organisations; urban, suburban, planned and unplanned settlements; or spatial modelling and evidence-based design. You can also develop a research project relevant to the research interests of your company or professional practice.

Transferable skills (term 1, 30 credits in total):

Design as a Knowledge-Based Process (15 credits)
Module tutor: Dr Sam Griffiths, Dr Sean Hanna
This module introduces theories of design as a knowledge-based or evidence-based process and provides a range of concepts that suggest how the nature of design may itself become the object of research. The module explores contrasting perspectives in architecture, theories of scientific knowledge, linguistics, social theory and theories of technology via student debate on issues of design practice, the nature of collaboration, machine intelligence and creativity. The module is intended to get students reflecting on what they do as practitioners by asking them to consider design as a knowledge domain with a particular knowledge base - rather than simply in terms of a tacit community of practice.
Assessment: coursework - debate and report

Building, Organisations and Networks (15 credits)
Module tutor: Dr Kerstin Sailer
This module establishes a distinctive theoretical framework for the research and analysis of the relationship between architectural morphology, organisations and social networks in complex buildings such as hospitals, offices and laboratories. This framework bears on the consideration of a

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range of contemporary, historical and cross-cultural case studies that explore themes such as emergent organisational behaviours, innovation and sustainability. An important component of the module is a programme of London-based site visits, which provides students with a range of examples to encourage them to reflect on the theoretical arguments and themes presented in the seminars.
Assessment: coursework - blog diary

Taught elements (terms 1 and 2, 30 credits in total):

Spatial Cultures (15 credits)
Module tutor: Dr Sam Griffiths
This module introduces a series of important concepts intended to provide students with the theoretical basis for researching the relationship between space and society – with an emphasis on the urban scale. It draws on theoretical perspectives from a range of disciplines and explains the contribution each has to make. The module investigates the theoretical possibility of developing a distinctive spatial ontology of society through a range of case studies of different spatial cultures.
Assessment: unseen written examination in term 2

AND

Spatial Justice (15 credits)
Module tutor: Professor Laura Vaughan
This module examines the interface between urban form and social outcomes. To explore these issues, the module offers an overview of the key factors in social exclusion and presents research into the relationship between urban design and crime, poverty, health and other issues of 'disurban' space.
Assessment: take-home exam

OR

Spatial Dynamics and Computation (15 credits)
Module tutor: Dr Tasos Varoudis
This module builds upon machine thinking in simulation and analysis with a focus on understanding the spatial dynamics that form the built environment around us. This module will deliver the basics of computer scripting and the fundamentals of spatial computation and visual-agent simulation. It will equip students with an understanding of the principles underlying the computation, representation, measurement and analysis of spatial and architectural phenomena that are in the core of space syntax and architectural design.
Assessment: coursework - project report

Research elements (terms 1 to 4, 120 credits in total):

Principles of Analytic Design (30 credits)
Module tutor: Dr Kayvan Karimi
This module provides a well-defined methodology for the description and analysis of form-function relations in architecture at all scales from the individual dwelling to the urban region. It introduces space syntax research methods aimed at investigating spatial morphology and its social implications by a practical, hands-on programme of lectures and workshops.

A series of lectures based on case-study examples will show how these methods have been deployed in architectural practice. The curriculum combines grounded qualitative methods with quantitative descriptive methods of spatial and configurational analysis and observation. Research methods from allied disciplines, such as geographic information systems (GIS), social anthropology and sociology are also introduced. Students undertake a group research project in the first term and an individual research project in the second term.

Space Syntax: Architecture & Cities MRes Dissertation
(90 credits)
Module Tutor: Dr Kayvan Karimi
Students are required to submit a 15,000-word dissertation on a subject agreed with the Programme Director. Dissertations will be supervised by the most appropriate member of staff for the topic in question. Teaching will include: research methods, research structure and approach, guidance on data gathering and writing seminars. There will be a formal (non-assessed) presentation by each student of their research question and data at the end of March. Students will present to their peers in front of an audience that will include the teaching team and associated researchers.

Staff

Space Syntax: Architecture & Cities MRes staff are involved in both academic research and its application to design, including through consultancy projects with architectural and urban design practitioners from the UK and overseas. Programme staff currently include:

[Dr Kayvan Karimi](#) – **Programme Director**
Senior Lecturer in Spatial and Analytical Design
An experienced architectural and urban designer, Kayvan is a director of Space Syntax Limited. He has worked extensively on projects including strategic city planning, large-scale urban master planning, urban conservation, revitalisation of historic centres and more. In recent years, Kayvan has been developing advanced methods for evidence-based design and planning of the built environment, from a micro to a macro scale.

[Dr Sam Griffiths](#) – **Lecturer**
Sam's research interests include the spatial cultures of industrial cities past and present, urban manufacturing, creative cities, processional culture, suburban spaces and Hillier and Hanson's architectural theory of space. Sam is a previous director of Space Syntax: Architecture & Cities MSc and has a strong pedagogical interest in the built environment as an interdisciplinary research domain.

[Professor Alan Penn](#) – **Professor of Architectural and Urban Computing Dean of the Faculty**
Alan is Dean of The Bartlett Faculty of the Built Environment, Director of UCL's Virtual Reality Centre for the Built Environment and a director of Space Syntax Limited. He is one of the main developers of space syntax theory and methodology and one of the founders of the Space Syntax Laboratory. His current research interests are at the interface between spatial analysis and virtual reality, and also in the evolution and design of large and complex buildings such as hospitals and laboratories.

Dr Sophia Psarra – **Reader of Architecture and Spatial Design**
Sophia's research explores spatial morphology through computer modelling, the interaction between architecture and the user, de-industrialisation and urban regeneration, and design research. Her activities in these areas have resulted in publications, creative installations and design projects. As a practising architect, she has won first prizes in international architectural competitions and her work has been exhibited across Europe.

Dr Kerstin Sailer - **Reader of Spatial and Social Networks**
Kerstin is a trained architect and has developed a business process examining links between space and effectiveness in the workplace at Spacelab Architects. Her research explores office buildings, universities, workplace environments, hospitals and schools. She is interested in the relationship between spatial configuration and usage processes, organisational theory and behaviour, social network analysis, and evidence-based design practices.

Professor Laura Vaughan – **Professor of Urban Form and Society**
Laura is Director of the Space Syntax Laboratory. Her research interests lie in the relationship between urban form and society and she has been principal/co-investigator for UK and EU funded research totalling over £6 million. Her interdisciplinary 'Adaptable Suburbs' research investigated London's outer suburban evolution and she recently completed a collaborative project concerning community severance and walkability.

Dr Tasos Varoudis – **Senior Teaching Fellow**
Tasos is a senior teaching fellow, professional architect and computing engineer with research focusing on hybrid architecture, computational analysis and machine intelligence. In the Space Syntax Laboratory, he is developing methodological and computational innovations which combine spatial data-driven models with machine learning and agent-based models. He is the lead developer of 'depthmapX' spatial network analysis software, the most widely used tool in space syntax research and practice.

Dr Kinda Al-Sayed – **Teaching Fellow**
Kinda teaches on the Space Syntax: Architecture and Cities MSc and MRes programmes and is a research associate on Proxies. She has studied at Damascus University, the University of Applied Arts Vienna, the Academy of Fine Arts Vienna, TU Wien and UCL. Her main research interests include developing a model of city growth and modelling cognitive and drawing activities in design processes. Kinda's research is focused on complexity modelling of artificial and natural phenomena as well as design behaviour and communications.

Occasional teaching staff
Professor Phillip Steadman, Ros Diamond, Professor Lars Marcus, Dr Daniel Koch, Mr Tim Stonor, Professor Muki Haklay, Anna Sabine Rose, Max Martinez, Dr Falli Palaiologou, Dr Laura Narvaez Zertuche and Dr Beatrix Emo.

Space Syntax: Architecture & Cities MRes is also able to draw on the expertise of a wide range of other academics and guest lecturers. Students also benefit from guidance and support from the Space Syntax Laboratory's doctoral research students, many of whom have substantial teaching and/or professional experience.

External examiners for the programme have in recent years included: Sue McGlynn, Sarah Chaplin and Gordana Fontana-Giusti.

Find out more

Research/community

- [Find out more about the Space Syntax Network](#)
- [Find out more about Space Syntax in professional practice](#)
- [Join the Space Syntax and UCL Depthmap discussion groups](#)

Software

- [Find out more about space syntax software](#)

The Space Syntax Online Training Platform (OTP)

The Space Syntax Online Training Platform introduces the fundamentals of space syntax theory and provides a unified training resource for academics and practitioners alike.

- [Visit the Space Syntax Online Training Platform](#)

Publications and articles

- [View the open-access Journal of Space Syntax](#)
- [Read space syntax-focused academic papers](#)
- [Read Programme Director Kayvan Karimi's publication 'A configurational approach to analytical urban design: space syntax methodology'](#)