



# Space Syntax: Architecture & Cities MSc

Programme Information Sheet

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

## Programme context and history

Space Syntax: Architecture & Cities began as Advanced Architectural Studies in 1974. Central and unique to the curriculum then and equally now is an approach called space syntax, a theory and a method that studies buildings, cities and open spaces in relation to use patterns and cultural meaning.

Space syntax augments design intuition, informs design teams 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.

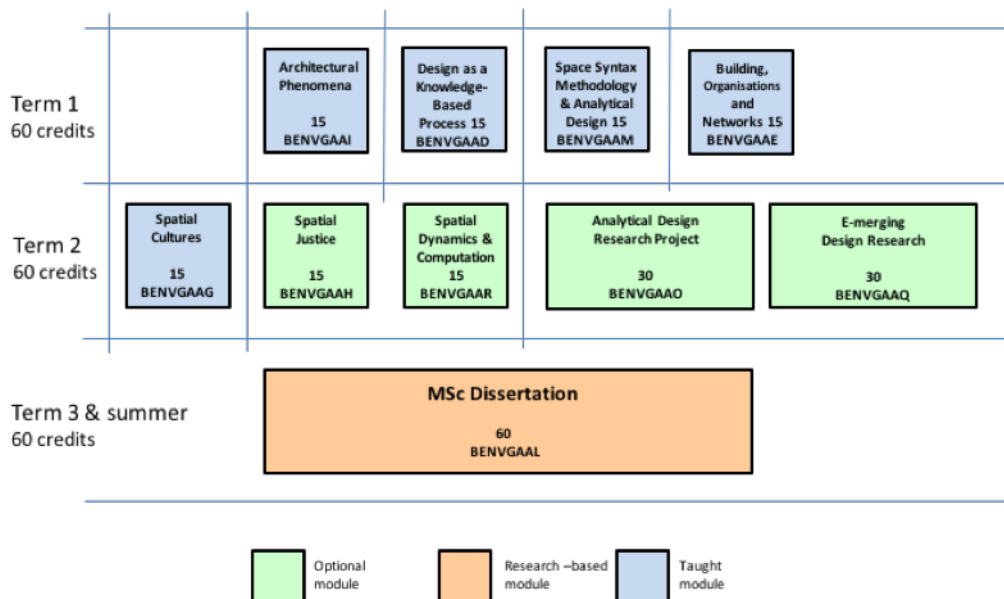
[Find out more about The Space Syntax Laboratory](#)

## Programme structure

Space Syntax Architecture & Cities MSc runs for twelve months, from September to September, and links to other courses at The Bartlett School of Architecture via shared modules and collaborative group research projects.

The programme 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, and an extended dissertation. Students on this programme must complete and pass 180 credits, made up of 120 credits of approved taught modules, and 60 credits from the dissertation.

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



*Please note: the module titled E-merging Design Research will not be taught in the year 2020/21.*

## Programme modules

### Core modules in term 1:

#### Design as a Knowledge-Based Process (15 credits)

Module tutors: 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 asks students to reflect on what they do as practitioners by getting 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 considers a 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

### **Space Syntax Methodology and Analytical Design (15 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, supported by a wide range of specialist learning materials. The emphasis is on space syntax as an innovative paradigm of evidence-based enquiry in which students learn how to experiment and test spatial hypotheses and think strategically about the role of spatial configuration in the design process and in relation to pressing questions such as the sustainability of the built environment.

Assessment: coursework - group project – oral presentations

### **Architectural Phenomena (15 credits)**

Module tutor: Dr Sophia Psarra

This is a theory module that explores theoretically, morphologically, and politically the evolution of ideas that have influenced architecture and its relationship with the city from the 1960s to the present. It looks at the conceptual frameworks that attempted to radically rethink what it takes to produce architectural and urban projects, and how these frameworks fit within the disciplines of architecture and urbanism. The module equips students with skills for radically re-thinking canonical texts and contemporary ideas on how buildings and cities are produced, and the role of various agents in their production (from Alexander's *A City Is Not A Tree* and Koolhaas' *City of Congestion* to Latour's *Actor Network Theory (ANT)*, and Aureli's *Absolute Architecture*).

Assessment: coursework - class-based exercises and poster

### **Core module in term 2:**

#### **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

### **Optional modules in term 2:**

#### **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

#### **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 at the core of space syntax and architectural design.

Assessment: coursework - project report

#### **Analytical Design Research Project (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-studies 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.

#### **E-emerging Design Research (30 credits)**

Module tutor: Dr Sophia Psarra

Contrary to the disciplinary separation of architecture and urbanism, this module advances a new studio-based model that integrates both fields. It prepares participants for a comprehensive design domain in which architecture, the social, and the city are framed as one thing. The module engages design as a form of research and interacts with theoretical and analytical modules in the programme. It takes the view that design innovation comes from the diversity of knowledge held by buildings, cities and the

multiple actors involved in their production, rather than a *priori* ideas of novelty and a *tabula rasa* approach, or nostalgia for an urbanity that mimics the old. More than training students how to produce expressive buildings, it embraces design as a catalyst of urban change. The module consists of a design studio, which debates its findings in individual tutorials, juries, exhibitions, publications, workshops, and feedback reviews.

Assessment: coursework - studio project

*Please note: this module will not be taught in the year 2020/21.*

### Term 3 and summer

#### **Space Syntax: Architecture & Cities MSc Dissertation (60 credits)**

Module Tutor: Dr Kayvan Karimi

The dissertation equips students with the skills to plan and conduct a research topic of their choosing. Students following Space Syntax: Architecture & Cities MSc are required to submit a 10,000-word dissertation on a subject agreed with the programme director and assigned tutor. Dissertations are produced between March and September and will be supervised by the most appropriate member of staff for the topic in question. Assessment: dissertation

## 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 MSc 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](#)
- [Explore space syntax-focused academic papers](#)
- [Read programme director Kayvan Karimi's publication 'A configurational approach to analytical urban design: space syntax methodology'](#)