MASTER OF SCIENCE    MASTER OF ARCHITECTURE
MSc & MArch SUSTAINABLE ENVIRONMENTAL DESIGN

PROGRAMME GUIDE 2016-17

September 2016
MSc & MArch Sustainable Environmental Design

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   MA Environment & Energy Studies
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SUMMARY PROGRAMME DATA

Degree: MSc & MArch in Sustainable Environmental Design
Teaching Institution: Architectural Association School of Architecture
Programme Validated by: The Open University
Duration of Programme: 12 months full-time Master of Science (MSc)
16 months full-time Master of Architecture (MArch)

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MSc / MArch Lecture Courses & Seminars
1 Sustainable City (Lecture Series) Term 1
2 Adaptive Architecturing (Lecture Series) Term 1
3 Environmental Simulation & Performance Assessment Tools (Lecture Series & Software Workshops) Terms 1&2
4 Environmental Design Primer (Lecture Series) Terms 1&2
5 Lessons from Practice (Lecture Series) Terms 2&3
6 Phase I & II Research Seminars Terms 1-4

Design Research Studios
1 Refurbishing the City 1: London Building Studies Term 1
2 Refurbishing the City 2: Design Research Term 2
3 Refurbishing the City 3: MSc / MArch Dissertation Research Terms 3&4

PROGRAMME REQUIREMENTS
180 credits (1800 hours of study) by successful completion of the following:

Term 1 (45 credits)
1 PROJECT I: (25 credits)
   Introduction: Week 2; Final Review: Week 12; Submission: Week 1 Term 2
2 TECHNICAL STUDIES (10 credits)
   Choice of topics: from Week 3; Submission: Week 1 Term 2 (as part of Project I)
3 RESEARCH PAPER I (10 credits)
   Seminar: from Week 4; Tutorials: from Week 7; Submission: Week 12 Term 1

Term 2 (45 credits)
4 PROJECT II: (25 credits)
   Introduction: Week 1; Final Review & Submission: end Term 2
5 TECHNICAL STUDIES (10 credits)
   Choice of topics: Week 3; Submission: end Term 2 (as part of Project II)
6 RESEARCH PAPER II (10 credits)
   Choice of topics: Week 6; Submission: Week 1 Term 3.

Terms 3 & 4 (90 credits)
7 DISSERTATION PROJECT (90 credits)
   Choice of topic & submission DP Outline: end Term 2; Reviews: in Terms 3 & 4
   Submission MSc Dissertation: 15 September 2017
   Submission MArch Dissertation: 26 January 2018
2 INTRODUCTION & OVERVIEW

2.1 Introduction

Sustainable Environmental Design engages with real-life problems affecting buildings and cities throughout the world. Providing alternatives to the global architecture and brute force engineering that are still the norm in most large cities requires new knowledge on what makes a sustainable environment and how architecture can contribute to such endeavour. Design research for the SED Masters programme is driven by strict performance criteria following a process of adaptive architecturing that proceeds from inside to outside, attuning the built form and its constituents to natural rhythms and inhabitant activities. Key objectives of all SED projects are to improve environmental conditions and quality of life in cities, achieve independence from non-renewable energy sources and develop an environmentally sustainable architecture able to adapt and respond to changing urban environments.

The taught programme is structured in two consecutive phases. Phase I is organised around team projects that combine MSc and MArch students to engage in experimental and analytical testing of the theoretical knowledge and computational tools introduced by the weekly lecture and seminar series. In Phase II, MSc and MArch design research develops independently following individual research agendas that reflect students’ home contexts, climates and building typologies. MSc candidates complete the 12-month course with a design research project that documents the architectural potential and applicability of their chosen topic in its geographic and climatic context. The MArch cycle extends over a 16-month period that culminates in a specific design application for a given site and design brief.

The MSc and MArch in Sustainable Environmental Design are post-professional degrees. In recent years the programme’s graduates have found work opportunities with some of the UK’s leading architectural practices (Arup Associates, Architype, Avanti Architects, Building Design Partnership, ECD Architects, Feilden Clegg Bradley, Foster & Partners, Grimshaw, HOK, KPF, Make Architects, Populous, PRP Architects, SOM, Wilkinson Eyre and many others) as well as with leading environmental engineering firms (Arup, Atkins, Chapman BDSP, Buro Happold, Fulcrum, Scott Wilson, WSP Environmental and others). Others have returned home to run their own successful practices or to go into research and teaching. Over the years some of the programme’s graduates have achieved senior academic and research positions and have themselves influenced the teaching, research and practice of sustainable design in some fifty countries in many different climatic regions.

The programme’s projects and teaching methods have featured in scientific publications, conference proceedings, books and architectural publications in several countries and different languages. Recent presentations have included papers at the PLEA 2016 Conference in Los Angeles, PLEA 2015 in Bologna, PLEA 2014 in Ahmedabad with an exhibition of dissertation projects by twelve of the programme’s Indian graduates, Ecobuild in London in 2012, the UIA Congress in Tokyo and the PLEA 2011 conference in Louvain-la-Neuve, Belgium in 2011, PLEA 2009 in Quebec, Canada, and Ecobuild,

This document provides an introduction to the structure and contents of the MSc & MArch options in Sustainable Environmental Design. It discusses the programme’s aims and learning outcomes, its teaching and learning strategies, its resources and assessment procedures and all other matters relating to its organization and implementation. The AA School has a long history in the teaching and research of sustainable environmental design that goes back some 60 years; a brief summary is given below.

2.2 AA Chronicle 60 Years of Environmental Design Teaching and Research at the AA School

The AA School’s involvement in the teaching and research of sustainable environmental design started with its Tropical Studies Department in the 1950’s. This was followed by the Rational Technology Unit that operated in the Diploma School in the early 1970’s, and the Environment & Energy Studies Programme that was started in the Graduate School in 1974. The one-year postgraduate Diploma in Environment & Energy Studies offered since 1975 was validated as an MA in 1995. In the 2005-06 academic year the MA in Environment & Energy Studies was replaced by the 12-month MSc and 16-month MArch in Sustainable Environmental Design. These changes have followed from the programme’s expansion, in design content and technical capabilities, underlining the importance now given to sustainable environmental design internationally within architecture, engineering and urbanism.

The listing below chronicles some key events and developments over these 60 years:

1954-56 The Department of Tropical Architecture (the Tropical School) was established at the AA School under Maxwell Fry. It offered a six-month postgraduate course leading to an AA Certificate in Tropical Architecture for architects from tropical countries and British architects intending to work in the tropics.

1957-71 The AA Tropical School was restructured under Otto Koenigsberger and the course was extended to nine months. The curriculum covered a wide range of subjects encompassing all aspects of climatic design relating to housing as well as aspects of economics, building production and financing, site factors and large scale design. The course was addressed to postgraduate students, but was also open to 5th year AA
students as a specialisation option on their final year. Students completing the three-term course were awarded the Diploma in Tropical Studies (Dipl Trop AA). The Department of Tropical Studies engaged in research and consultancy in several countries. In later years the Tropical School's teaching on appropriate building design for tropical climates was compiled into a book that has since become a classic: the "Manual of Tropical Housing and Building - Part 1 Climatic Design" by Otto Koenigsberger, T.G Ingersoll, Alan Mayhew and S.V. Szokolay, published by Longman.

1973 - 77

Under Gerry Foley and George Kasabov the Rational Technology Unit (Diploma Unit 10) had a pioneering role in the energy debates of the 1970's. A fairly anarchic bunch of students engaged hands-on with solar and wind technologies, self-building and urban farming, redrawing the map of the UK anticipating the rise in sea level due to global warming. Meetings at the AA debated the role of alternative technology and prospects for alternative societies. The Unit's 1973-74 publication displayed an impressive range of interests and expertise. Gerry Foley's "The Energy Question", with Charlotte Nassim, was published by Penguin Books in 1976. George Kasabov curated the exhibition "Buildings – the Key to Energy Conservation" at the RIBA in 1979.

1974 -

The Energy Studies Programme (later Environment & Energy Studies Programme, AA E+E) embarked on its first academic year in October 1974 as one of three new postgraduate programmes started by AA Chairman Alvin Boyarsky in the restructured Graduate School under Royston Landau. The Energy Programme offered a one-year AA Graduate Diploma and two-year Honours Diploma. It was directed by Robert Drew in its first year, followed by Gerry Foley who took over in the mid-1970's, and by Simos Yannas from 1980.

1976-80

A collaboration with the Essex Council's Architects Department leads to a series of research projects on energy use in school buildings with funding from the Science Research Council, the UK Department of Education and Science and the Department of Energy. The last of these project addressed the topic of energy education and led to its adoption in the curriculum of primary and secondary schools around the country.

1980-

Since 1980 some 40 PhD and MPhil research projects were successfully completed on various topics of sustainable environmental design.

1982-

Simos Yannas became a founding member of the international PLEA (Passive and Low Energy Architecture) network and was entrusted with the technical programme of the 2nd PLEA Conference that was held on Crete, Greece in 1983. He later served as PLEA Director and continues as Board Secretary. PLEA has since held its annual conferences in some thirty countries producing over 30 volumes of proceedings and several special issues of scientific journals. The latest PLEA conference was held in July 2016 in Los Angeles. PLEA 2017 will take place in Edinburgh in July 2017.
1986- Following a definition study in the early 1980’s, AA E+E was awarded a contract from the UK Department of Energy’s Energy Technology Support Unit to produce a handbook on housing design in the context of the UK Solar Energy Research Programme. A further contract was awarded to AA Publications for the publication of the two volumes of the handbook. *Solar Energy and Housing Design* was published in 1994 and continues to be used widely by students and practising architects in many countries.

1992-95 Funding was obtained from the European Commission for a series of projects that were undertaken in collaboration with teams from several other countries. Publications produced included twelve booklets on Building Science and Environment-Conscious Design under an EC Tempus project; a series of books and posters on the Design of Educational Buildings produced under EC Solinfo in 1995; and a two-volume manual on passive cooling produced in 1995 under EC Joule programme.

1995 The AA became an Open University Accredited Institution and the postgraduate Diploma in Energy Studies was validated for the Master of Art (MA) in Environment & Energy Studies.

1995-97 Two open symposia that were organised by Bill Dunster and Simos Yannas on the theme of Sustainability in Architecture in 1996 and 1997 attracted large participation from students and invited architects and engineers.

2003-07  Collaboration with AA Intermediate Unit 4 led to the construction of a structure for a village school in Ghana in January 2003. In the following year the AA E+E Masters group designed and fabricated a movable structure that was erected for testing in Oia, on the Aegean island of Santorini. In 2005 another structure, the Heliotropic Bench, was fabricated at Hooke Park and tested on Santorini. In February 2007 a third structure was fabricated for testing on the campus of the American University of Sharjah, UAE.

2004 & 2009  *Em Busca de uma Arquitetura Sustentavel para os Tropicos* (Towards a Sustainable Architecture for the Tropics) by Oscar Corbella and Simos Yannas was published in Rio de Janeiro by Editora Revan; a second edition with Spanish and English introductions was published in 2009.


2005  On the occasion of Simos Yannas’ visit to Lisbon for lectures at the Technical University the architectural journal *Arquitectura e Vida* published a lengthy interview in its June 2005 issue illustrated with recent AA E+E projects.

Collaboration with UIA Architecture & Renewable Energy Sources Group led to a Symposium organised in March 2005 at the AA and presentations at the UIA Congress in Istanbul in July 2005 with exhibitions of student work.
2005-

From October 2005, the 12-month Master of Science (MSc) and 16-month Master of Architecture (MArch) in Sustainable Environmental Design replace the Master of Art (MA) in Environment & Energy Studies following the programme’s revalidation.

2006

*Roof Cooling Techniques—a design handbook* by Simos Yannas, Evyatar Erell and Jose-Luis Molina was published by Earthscan and shortlisted for the RIBA Book Award for Architecture. The publication of the book and its accompanying simulation software is the culmination of a two-stage European research project with the participation of teams from several countries.

2007

The first MArch candidates in Sustainable Environmental Design gave their final presentations on the 24th January 2007. A major retrospective exhibition of AA E+E projects of the last five years opened the same evening in the Arts Pavilion at Mile End Park in East London.

2007

The year’s study trip to the Gulf Region included seminars and symposia in several cities followed by the undertaking of a series of projects that were published in January 2008 in a Special Issue of the *2A Architecture & Art Magazine*. The work was presented at Harvard University’s Centre for Middle Eastern Studies. A structure designed at Hooke Park by the 2006-07 Masters students was tested on the site of the American University of Sharjah, UAE.

2008-09

Some twenty of the programme’s recent students presented papers based on their MSc and MArch dissertation projects at the PLEA 2008 Conference in Dublin and the PLEA 2009 Conference in Quebec where a large exhibition of the programme’s Term 1 Building Studies was also held. A number of exhibits were also shown at the Ecobuild exhibition in London in early March 2009. Articles were contributed to several books.
2009-12 AA SED took part in a three-year collaborative international project "Environmental Design in University Curricula and Architectural Training in Europe" (EDUCATE) sponsored by the European Commission with six other Schools of Architecture.

2011-12 Study trips to Barcelona and Madrid and exhibition of work at PLEA 2011 in Belgium including several oral presentations of student papers, and at the UIA Congress in Tokyo in September 2011. Publications in books and conference proceedings.

2011-12 Symposium on Ecological Design Research held at the AA (above left) with speakers from among the authors of a special issue of AD Architectural Design.
2013-14  SED Team wins OpenSource design marathon in Milan, May 2013 (below left). Publication of "Lessons from Vernacular Architecture" (below right).

2013-14  Projects in India an exhibition at the PLEA 2014 Conference in Ahmedabad, India (below) of Dissertation Projects by twelve of the programme’s Indian students illustrating a wide range or urban contexts, building programmes and climatic conditions including both MSc and MAch Dissertations.
2014-15  SED display at the AA end of year exhibition July 2015 (above). Andrea Rossi and Pierluigi Turco win the PLEA 2015 Best Project Award in Bologna for their MArch Dissertation Project for a Migrants Centre in Lampedusa (below). Over a dozen other papers presented by SED staff and students at the same conference.

2015-16  SED team wins Labgrade Design Competition for the refurbishment and extension of a hotel in North Italy held in Milan in May 2016. Juan Montoliu and Jorge Rodriguez win Best Paper Award at the PLEA 2016 Conference held 9-11 July 2016 in Los Angeles.
2.3 MSc + MArch Sustainable Environmental Design Research Agenda

In 2016-17 AA SED will be embarking on its twelfth cycle of the MSc and MArch in Sustainable Environmental Design. The taught programme will continue to develop its research agenda on Refurbishing the City. Student projects will further develop the vocabulary of sustainable environmental design for a wide range of climates, building types and urban environments. Since the first cycle of the MSc / MArch in 2005-06, over 500 research projects have been completed by the programme’s students for sites in some 60 countries and 150 cities in different climates and urban contexts spread between longitudes 125° West and 140° East and latitudes 0° to 60° North and South.

The SED Refurbishing the City Project Map now lists over 500 projects sited in 150 cities in some 60 countries.

Teamwork and individual projects in 2016-17 will be under the following themes:

**Refurbishing the City 1 : London Building Studies**  
*Term 1*  
London will serve as the laboratory for case studies of recent buildings and outdoor spaces that combine on-site observations and environmental measurements with use of advanced computational tools to investigate building performance and the relationship between building, climate and occupants.

**Refurbishing the City 2 : Design Research**  
*Term 2*  
The insights gained from the Term 1 case studies will provide starting points for design briefs to be developed into team projects applying the conceptual and computational tools of adaptive architecturing in response to climate change, lifestyle trends and technical developments that shape the future of the city.

**Refurbishing the City 3 : MSc / MArch Dissertation Research**  
*Terms 3 & 4*  
In Term 3 individual research agendas for dissertation research will be combined into thematic groupings initiating shared research before separating into MSc and MArch projects for the final stage in Term 4. Research for the dissertation project provides the opportunity to explore and compare design options and performance results across a broad range of climates, building types, design specifications and operational conditions, as well as choose and vary the focus and specificity of the investigation to address issues ranging from the scale of an individual building component to that of the building block or urban region.
3 PROGRAMME SPECIFICATION: AIMS AND LEARNING OUTCOMES

Common aims of the MSc and MArch in Sustainable Environmental Design are to provide objective criteria for conceiving, defining, designing and assessing the environmental functions, attributes and performance of buildings and outdoor spaces. Taught courses, project work and dissertations are aimed at equipping participants with cognitive, experiential, analytic and generative skills enabling them to engage in interdisciplinary environmental design research and practice. The main areas of application of the knowledge and skills provided by the programme are urban environments and individual buildings, new or existing, in different climatic and geographic contexts. Project work explores the relationship between form and performance, especially the dynamic and adaptive potential of the building envelope in different climatic regions and for different building types. Programme-level learning outcomes are identified below. These are listed under three groupings relating respectively to the acquisition of knowledge and understanding, to specific skills and transferable skills.

3.1 Knowledge and understanding

On successful completion of the MArch / MSc in Sustainable Environmental Design participants will be able to:

A1 demonstrate knowledge and understanding of key concepts of sustainable environmental design
A2 demonstrate familiarity with building energy modelling and simulation tools and understanding of their applicability to inform design decisions
A3 identify and characterise significant architectural typologies and built precedents
A4 demonstrate critical understanding of generic environmental attributes of historic and contemporary buildings
A5 take a critical position in relation to wider issues and objectives of sustainability
A6 take a critical position in relation to parallel contemporary tendencies in architecture and urbanism.

3.2 Subject specific skills and attributes

On successful completion of the MArch / MSc in Sustainable Environmental Design participants will be able to:

B1 undertake critical reviews and appraisals of key technical and theoretical aspects of environmental sustainability in architecture and urban design
B2 plan, implement, process and interpret fieldwork in buildings and outdoors using specialist instruments and data acquisition techniques.
B3 use specialised analytic tools and performance assessment techniques to inform design decisions and assess the environmental impact and performance of buildings and urban spaces
B4 identify, compare and assess environmental attributes of buildings using on-site observations and measurements, as well as comparative performance data and calculated results
B5 assess the potential offered by new materials and technologies
B6 formulate environmental design guidelines and proposals for new or existing buildings taking account of climate, site and building occupancy
B7 (MArch) develop and test original design applications.

3.3 Transferable skills and attributes

On successful completion of the MArch / MSc Sustainable Environmental Design participants will be able to:

C1 use appropriate analytic tools and other research techniques to formulate and test research hypotheses
C2 engage in environmental research as a member of an interdisciplinary team.
C3 use a variety of media to communicate effectively with clients and colleagues
C4 continue expanding their knowledge using the skills acquired.
### 3.4 Curriculum Map

The Curriculum Map below shows how outcomes are deployed across the study programme. It relates the delivery and assessment of the learning outcomes listed above to the different inputs and outputs of the programme. The tabulation indicates which study units assume responsibility for delivering (shaded) and assessing (X) particular learning outcomes. To simplify the tabulation, lecture series have been grouped under three broad categories relating respectively to principles and theories of sustainable environmental design; practice and built examples; and analytic tools. Each of these is identified in terms of the learning outcomes delivered. Project workshops and individual and group tutorials are shown as relating mainly to the assessment of learning outcomes though in practice they also contribute to the delivery of the outcomes. Assessed work in the form of projects, essays, technical studies and dissertations is listed as representing both delivery and assessment of learning outcomes.

| Curriculum Map | A1 | A2 | A3 | A4 | A5 | A6 | B1 | B2 | B3 | B4 | B5 | B6 | B7 | C1 | C2 | C3 | C4 |
|----------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Knowledge and understanding | | | | | | | | | | | | | | | | |
| A1 | A2 | A3 | A4 | A5 | A6 | B1 | B2 | B3 | B4 | B5 | B6 | B7 | C1 | C2 | C3 | C4 |
| of key concepts of sustainable environmental design | | | | | | | | | | | | | | | | |
| with building energy modelling and simulation tools and applicability to design | | | | | | | | | | | | | | | | |
| of building energy modelling and simulation tools and applicability to design | | | | | | | | | | | | | | | | |
| of significant built precedents | | | | | | | | | | | | | | | | |
| of environmental attributes of historic and contemporary buildings | | | | | | | | | | | | | | | | |
| tools | | | | | | | | | | | | | | | | |
| of environmental sustainability | | | | | | | | | | | | | | | | |
| critical position in relation to tendencies in architecture and urbanism. | | | | | | | | | | | | | | | | |
| Specific skills and attributes | | | | | | | | | | | | | | | | |
| reviews of technical and theoretical aspects of environmental sustainability | | | | | | | | | | | | | | | | |
| plan, implement, process and interpret results in buildings and outdoors | | | | | | | | | | | | | | | | |
| design and assess the potential of new materials and technologies | | | | | | | | | | | | | | | | |
| assess environmental attributes of historic and contemporary buildings | | | | | | | | | | | | | | | | |
| guidelines for buildings taking account of climate, site and occupancy | | | | | | | | | | | | | | | | |
| MArch develop and test original design applications | | | | | | | | | | | | | | | | |
| MSc develop and test original design applications | | | | | | | | | | | | | | | | |
| MSc develop and test original design applications | | | | | | | | | | | | | | | | |
| Transferable skills and attributes | | | | | | | | | | | | | | | | |
| use analytic tools and research techniques to test hypotheses | | | | | | | | | | | | | | | | |
| engage in interdisciplinary environmental research | | | | | | | | | | | | | | | | |
| continue expanding their knowledge using the skills acquired | | | | | | | | | | | | | | | | |

**Terms 1-3 Lecture Series**

**PRINCIPLES & THEORIES**

**PRACTICE & EXAMPLES**

**TOOLS & TECHNIQUES**

**Terms 1-4 Workshops & Tutorials**

**TOOLS WORKSHOPS**

**DESIGN WORKSHOPS & TUTORIALS**

**DISSERTATION SEMINARS & TUTORIALS**

**All Assessed Work**

**PROJECT I**

**ESSAYS**

**TECHNICAL STUDIES**

**PROJECT II**

**MArch DISSERTATION**

**MSc DISSERTATION**
4 TEACHING AND LEARNING STRATEGIES

The programme’s Lecture Courses are complementary and practice-oriented. In conjunction with the weekly workshops, seminars and tutorials they provide the knowledge, analytic tools and guidance needed for undertaking real-life project work. On the MSc / MArch Sustainable Environmental Design, projects are cross-course vehicles focused on different aspects of the design, making, experience and assessment of architectural spaces indoors and outdoors. Term 1 and 2 Projects are undertaken in teams of four. Dissertation research is started collaboratively by grouping topics; projects are then developed and completed individually thus allowing students to contextualise their projects to the climatic and other specificities of their chosen urban environment.

4.1 Lecture Courses

Attendance of the lectures and other weekly events offered by the programme is compulsory for Phase I students registered for the MSc / MArch in Sustainable Environmental Design. In Term 1 the lecture input provides a common cognitive background and the skills and tools needed for project work. In addition, lectures address current issues and professional concerns, and provide overviews of research directions pursued by the programme and by the field as a whole. Term 1 lectures are given by the programme’s regular teaching staff and visiting lecturers so as to ensure continuity and provide direct support to project work. In Terms 2 and 3 some of the lectures are given by invited researchers and designers. This provides diversity of opinion, variety of input, and links with research and practice outside the programme. The structure and overall contents of the taught programme are reviewed annually and at the beginning and end of each term. Throughout the year lecture topics are selected so as to feed directly into each term’s project agendas. Lectures are stored in electronic format and are available to students for further study after their delivery. Section 7 of this Guide introduces the programme’s core lecture series and section 8 provides Reading Lists organised according to key topics of interest. Owing to the vast amount of published information in the various fields of sustainability, the reading lists given here are focused on items that have proven to be of direct relevance to the programme’s courses and project work.

4.2 Seminars & Workshops

The Research Seminar is a weekly forum on information sources, research methods, report writing and visual presentation. The Modelling & Simulation Workshop provides hands-on training in the use of a wide range of specialist tools and software; it aims to develop analytical and research skills required for field studies and project work.

4.3 Study Trips & Special Events

Study trips involve visits to buildings of interest, meetings with designers and researchers and taking part in international conferences and other events. In the early weeks of the year visits will be for fieldwork within London. A study trip abroad will take place at the beginning of Term 3. At the end of the academic year there will be an option to attend the PLEA 2017 conference in Edinburgh in July 2017.

4.4 Team Projects

On the MSc / MArch Sustainable Environmental Design, projects are the vehicles for integrating the inputs of all of the taught programme’s lectures and workshops. Projects are based on realistic briefs and sites closely related to the kind of work the programme’s graduates will be expected to undertake in practice after graduation. Project work is supported by weekly tutorials and monitored by regular presentations and review sessions. Team projects account for 25 credit units (a nominal 250 hours of student effort including attendance of related courses). Assessment is discussed in section 6. Project learning outcomes and assessment criteria are discussed in section 9 of this Guide and the organisation and submission of project reports is discussed in section 11.

4.5 Research Papers

Research papers are in the form of literature review on selected topics relating to the programme’s lecture courses and project briefs. Choice of topic and review of literature are supported by regular individual tutorials. A research paper of 3,000 words represents 10 credit units (a nominal 100 hours of student effort including attendance of related courses). Assessment is discussed in section 6. Learning outcomes and assessment criteria are listed in section 9 of this Guide and the organisation and submission of research papers is discussed in section 11.
4.6 Technical Studies
Technical studies may involve fieldwork and/or the use of the computational tools introduced by the taught programme. They are undertaken as part of project work and shared between project team members. Support is in the form of weekly tutorials and regular presentations of research results. A Technical Studies submission represents 10 credit units (a nominal 100 hours of student effort including attendance of related courses). Assessment is discussed in section 6. Learning outcomes and assessment criteria and guidelines are listed in section 9 of this Guide and the organisation and submission of reports is discussed in section 11.

4.7 Dissertation Projects
The Dissertation Project represents 90 credit units, 50% of the total credit for the MSc and MArch in Sustainable Environmental Design. Dissertation Projects are vehicles for undertaking a significant piece of research that reflects the programme's areas of specialisation and students’ personal interests, backgrounds, special skills and plans for the future. The MArch dissertation research should lead to a design application that candidates are expected to develop in some detail. MSc dissertations deal with the design applicability of their research outcomes and as such have a broader scope than the MArch. Dissertation topics are decided by the end of Term 2 and confirmed with the submission of written outlines providing evidence that the proposed topic is within the student's grasp, capabilities and workplan. The first stage of dissertation research may be collaboratively. This can greatly expand the review of published literature and built precedents. Supervision of dissertation work is through weekly individual tutorials. There are progress presentations attended by the programme's teaching staff and external reviewers. Learning outcomes and assessment criteria are discussed in sections 6 and 9 of this Guide and the choice of dissertation topics and the planning, development and submission requirements of Dissertation Projects are discussed in detail in section 10. A list of completed and continuing Dissertation Projects is included in the Appendix.

4.8 Tutorials
The overall direction and progress of student work within the Masters programme, and the development of projects and other course work are monitored and supported by weekly individual and/or team tutorials. Projects and dissertations are tutored by the programme's regular teaching staff on a weekly basis. Staff are available for tutorials by appointment and/or at pre-arranged times.

4.9 Project Presentations & Reviews
Project presentations by individual students and project teams are regular events aimed at monitoring progress as well as developing students’ oral and visual presentation skills.

4.10 Student Feedback
Student feedback to the taught programme's structure, content, delivery and teaching methods is sought throughout the year. Such feedback is important in helping to plan forthcoming events of following terms, as well as for improvement and updating of the contents of the programme from year to year. At the end of the year a questionnaire form is distributed for written feedback by outgoing students.

5 RESOURCES
The AA Student Handbook provides information on all aspects of the AA School's organisation, resources and facilities, and its academic and administrative policies. General facilities that are available to all students will be introduced during Introduction Week before the beginning of the academic year. These include the School's Library, Computer Lab, Prototyping Labs and Materials Workshop. The resources and facilities listed in this section are those provided solely to students on the MSc / MArch in Sustainable Environmental Design.

5.1 Reading Lists & Reference Material
Material that needs to be available to students at all times is mostly provided as a download from the programme's folder on the School's File Server (\jupiter\Unit-Space\EE). To have access to the EE Folder students must first register with the AA Computer Lab. This includes a comprehensive collection of dissertation and team project work from previous years. The AA Library www.aaschool.ac.uk/library stocks all of the books listed on the programme's Reading Lists (see Section 8 of this Guide). A selection is located on a special shelf for easy access. For scientific papers the AA Library provides access to the Science Direct site from where papers published in journals such as Energy and Buildings can be
downloaded for study. The Open University provides library resources that can be accessed from: www.open.ac.uk/library/libpartnerships. Printed copies of team projects and dissertations are kept in the Programme’s Offices.

5.2 Computing
Students are expected to own a laptop computer running Windows. Ownership of a fast inkjet printer is strongly recommended. Software introduced by the taught programme for use on project work will be made available as needed. Students are required to observe the Studio Rules of Conduct that apply to the use of the software within and outside the School.

5.3 Communications
Students on the programme are required to confirm their email addresses on arrival and to check their emails on a daily basis for updates on weekly events, tutorials and reviews. Most spaces within the School provide wireless Internet access.

5.4 Scientific Instruments
The programme owns a wide range of portable scientific instruments for taking measurements of environmental variables on field studies as well as in the SED Studio. Instructions on how to use the instruments and how to record, process and present the results are given by the Term 1 “Tools” course and accompanying workshops. To borrow instruments students must place a formal request with the programme staff. Instruments are available on a first come first served basis. Especially early notice is needed when they are to be taken abroad.

5.5 Modelmaking & Prototyping
The AA School has in-house facilities for fabrication and model making. The large workshops at Hooke Park in Dorset offer opportunities for producing experimental structures such as the bioclimatic shelters fabricated by the programme’s students in previous years. Students wishing to use the AA workshops must attend introductory training sessions on the first week of the academic year.

5.6 Studio
The programme’s studios are open from early in the morning till late evening on weekdays and weekends. All of the programme’s specialist software can be run from the studio and the programme’s instruments are kept there.

6 ASSESSMENT

All submissions are assessed and marked by two members of the programme’s teaching staff. Submitted work is also reviewed by the External Examiners whose role is to ensure fair and objective marking and the maintenance of high academic standards. All marks and assessments are reviewed by an Examination Board composed of the programme’s teaching staff and External Examiners. The Examination Board has the responsibility for the final marking and for making recommendations on the award of distinctions or the need for resubmission. Notification of results is given to students by the Registrar's Office through the Graduate School’s Administrative Coordinator.

Submissions for the MSc / MArch in Sustainable Environmental Design are assessed on:

1. Knowledge and understanding of the principles introduced by the taught programme
2. Clarity of the approach followed in the investigation of research questions and hypotheses
3. Application of critical faculties and observational skills
4. Use of fieldwork techniques and analytic tools to test hypotheses and find new data
5. Ability for comparative analysis and interpretation of results
6. Application of new knowledge and tools in design research and practice
7. Demonstration of innovative thinking and creativity
8. Clear and concise writing and presentation of project results
9. Referencing of sources of information using agreed conventions
10. Adherence to project briefs and other preset requirements

The marking of projects, essays and dissertations is on a scale of 0-100 with pass mark of 50 and grades as shown below. These are common to all Masters Programmes at the AA School.
The marks awarded by the internal assessors are averaged to obtain the overall mark for each submitted piece of work. An average mark is then calculated for the course work based on the credit rating of each project and research paper. Section 9 lists the credit ratings of each item. Where averaged marks are of a decimal form such as XX.5 or greater, this will be rounded up to the next higher integer mark (e.g. 65.5 will be rounded to 66). Where the averaged mark is below XX.5 this will be rounded down to the next lower integer mark (e.g. 68.4 will be rounded to 68). For the purposes of rounding up or down only the first decimal is used.

The pass mark is 50. To qualify for the award of the MSc or MArch candidates must attain the 50 threshold mark on both course work and Dissertation. An overall final mark is then calculated. The course work represents half of the total credit and the dissertation accounts for the other half. The MSc and MArch are awarded "with Distinction" when the combined weighted average of course work and dissertation equals or exceeds 70.

Students who fail to attain a pass mark on a Project or Research Paper will be required to resubmit and have to pass the failed item to be eligible to continue on the course. Students who fail to attain an overall mark of 50 on their dissertation will be allowed to resubmit once for consideration by the Examination Board of the following academic year. Failure to resubmit or to achieve a pass mark on resubmission will lead to disqualification from the degree.

Non-submission or late submission of team Projects, Research Papers or Dissertations without mitigating circumstances is marked as Fail. In those cases, resubmission will be subjected to mark capping at 50. Failure to pay tuition fees is also classed as Fail. Deferment of a submission may be considered in case of illness or other exceptional circumstances. In such cases the deferred submission is classed as a first submission.

The AA School requires all students to sign a declaration form confirming that the contents of each of their submissions is their own work and that reference to the work of others is duly acknowledged following agreed conventions discussed in Section 10 of this Guide. Failure to provide such acknowledgment, whether deliberate or unconscious, constitutes plagiarism. Plagiarism is a most serious academic offence that can lead to disqualification from the degree. For further information on this issue see the AA Student Handbook.

7 PROGRAMME STRUCTURE & CORE COURSES

The taught programme for the MSc and MArch in Sustainable Environmental Design combines lecture series, seminars, cross-course team projects, fieldwork, software workshops, and other activities including building visits and study trips. These formal events and activities provide the conceptual, empirical and analytic tools and information needed to address environmental issues in design research and architectural design. Projects provide the main vehicle for student work. Project work is closely supervised by the programme’s teaching staff through regular individual and group tutorials. Dissertation projects represent the largest component of student work. Topics for dissertation projects are decided half way through the programme’s duration and the work is developed over the last two terms under close supervision.

The taught programme is divided into four terms. Most of the lecture content is delivered in the first two terms (October to March inclusive). Over the same period, course work combines team projects, technical studies and individual research papers. Term 1 and 2 project teams bring together MSc and MArch students. In Term 3 students embark on the research for their Dissertation Projects. This is started in teams of MSc or MArch students, but is completed and submitted individually. MSc students...
work on their Dissertation projects non-stop through the summer for submission on the weekend before the start of the next academic year. MArch students are expected to take a summer break returning to the School in September.

Students are accepted on the programme either for the MSc or for the MArch. Switching from MSc to MArch or vice versa in the course of the year can be allowed only under very exceptional circumstances. Students who have compelling reasons for such change should approach the programme director by the beginning of Term 2. They will be required to submit a written statement explaining why they should be considered for the other degree, how the potential change relates to the work they have accomplished so far and how it will influence their dissertation work. In considering such applications the programme staff will take account of students’ Term 1 course work results. Visa arrangements cannot be changed.

Credits are given for each 10 hours of learning time. Learning time includes lectures, seminars, course reading, workshops and tutorials, as well as time spent on projects, essays and other assigned tasks. A total of 180 credits is required for the MSc / March in Sustainable Environmental Design representing 1800 learning hours over 45 weeks. Course work is assigned by academic term, but extends into the vacation periods. Credits are distributed between the four terms of the year as follows:

i. Term 1        Project I & Research Paper 1  45 credits  25% of total credits
ii. Term 2     Project II & Research Paper 2  45 credits  25% of total credits
iii. Terms 3&4      Dissertation Project       90 credits  50% of total credits

For a detailed breakdown of credits and a listing of the respective aims, learning outcomes and assessment criteria for each item see section 9 of this Guide.

Summary outlines of the taught programme’s lecture courses and seminars are given below. All weekly events and project work take place in the studio which is open seven days a week. The regular courses and Term 1 projects will start on the second week of the academic year following two weeks of induction which include special events and introductory activities. The first week of induction is the AA School’s Introduction Week for all new students. This includes introductions to the School’s facilities and site visits around London. Information on Introduction Week events and activities will be provided at registration. The AA postgraduate programmes will be introduced on Week 1 of the academic year. There will be opportunity to attend the introductions of all of the Masters programmes and to meet teaching staff and new students. The SED programme’s incoming MSc and MArch students will introduce themselves with short presentations on that week. Project teams will then form for a Design Charrette over the weekend with proposals to be presented on the Monday.

Definitive listings of the programme’s weekly events will be published in the weekly Events List available in printed form and online. Required and Recommended readings related to individual courses are listed in Section 8 of this Guide.

Lecture Courses & Seminars

Sustainable City  Term 1
The course reviews theories of urban sustainability, introducing notions of environmental performance for cities and the instruments and tools applied to its assessment. The effects of urban morphology on microclimate, energy consumption and climate change will be investigated at different scales, ranging from the regional to that of the urban block, and illustrated with case studies of new and refurbished schemes in different countries and urban contexts.

Adaptive Architecturing  Term 1
Providing local solutions to global issues requires new knowledge on what makes a good environment for inhabitants and how architecture can contribute to this, thus reclaiming its historical role as a tool of sustainable environmental design. The course introduces a generative framework for an adaptive architecture that is occupant-centered, has an affinity for culture and tradition and a symbiotic relationship with the city.

Environmental Simulation & Performance Assessment Tools  Terms 1 & 2
This is a hands-on course on the tools encompassed by the design research methodology applied on all SED projects. The course runs in weekly all-day sessions that follow the programme’s Term 1 and 2
team projects. These start with an introduction to fieldwork techniques, involving indoor and outdoor surveys and the measurement and processing of environmental data. Measured data provide are used to calibrate computer models that are then applied to the simulation of solar, thermal, airflow and daylighting processes in and around buildings as these affect building performance, energy use and occupant thermal and visual comfort. A range of computational tools of varying complexity will be introduced over the year and their application will be explored initially on the team projects and in more detail over Terms 3 and 4 on all MSc and MArch dissertation projects.

**Environmental Design Primer Terms 1 & 2**
This course introduces key topics of environmental design research and practice as these relate to architecture and building science. Topics include urban climatology and the theories and practice of environmental comfort; the physics of natural light, airflow and thermal processes; the ecology and environmental performance of materials; renewable energy technologies in the urban environment; and the science and art of measurement and performance assessment.

**Lessons from Practice Term 2**
Each year a number of practising architects, engineers and researchers are invited to present recent projects illustrating their practice and experience of sustainable environmental design. The course also includes one or more study trips to visit buildings of interest in the UK and abroad. This year’s PLEA conference will be held in Edinburgh in early July 2017 providing the opportunity for current SED students as well as graduates to attend and present work.

**Research Seminar Terms 1-4**
In Phase I the seminar provides a regular forum for discussing research methods, report writing and topics that can be developed into the two individual research papers that prepare the ground for dissertation projects. In Phase II the seminar provides direct support to the development and review of MSc and MArch dissertation projects complementing the weekly individual tutorials.

**Studio Projects**

**Refurbishing the City 1 : London Building Studies Term 1**
London will serve as the laboratory for case studies of recent buildings and outdoor spaces that combine on-site observations and environmental measurements with use of advanced computational tools to investigate building performance and the relationship between building, climate and occupants.

**Refurbishing the City 2 : Design Research Term 2**
The insights gained from the Term 1 case studies will provide starting points for design briefs to be developed into team projects applying the conceptual and computational tools of *adaptive architecturing* in response to climate change, lifestyle trends and technical developments that shape the future of the city.

**Refurbishing the City 3 : MSc / MArch Dissertation Research Terms 3 & 4**
In Term 3 individual research agendas for dissertation research will be combined into thematic groupings initiating shared research before separating into MSc and MArch projects for the final stage in Term 4. Research for the dissertation project provides the opportunity to explore and compare design options and performance results across a broad range of climates, building types, design specifications and operational conditions, as well as choose and vary the focus and specificity of the investigation to address issues ranging from the scale of an individual building component to that of the building block or urban region.
8 READING LISTS & INTERNET SOURCES

8.1 Reading Lists & Information Sources

The published literature on the topics covered by the SED programme is vast and continues to grow rapidly. Random reading and uncritical internet surfing are strongly discouraged. The items listed here have been carefully selected to match the specific objectives and learning outcomes of the taught programme. They include recent books and papers as well as earlier publications that have stood the test of time. Items preceded by an ‡ are Required Reading. These must be sought and read carefully early in the year as they deal with material that is essential for following the taught programme and undertaking project work. Items marked with an † are Recommended Reading. These contain important information and technical data that will be needed in the course and project work. Other items in the list can be consulted in due course. The books and papers in the list have been grouped by topic categories that are listed alphabetically as follows:

- Building Examples & Case Studies
- City microclimates, Design of Outdoor Spaces
- Comfort, Post-Occupancy Evaluation, Behavioural Studies
- Daylighting
- Environmental Design Principles
- Environmental Engineering
- Environmental Analysis Tools & Data, Energy Targets & Benchmarks
- Environmental Assessment
- Materials & Construction Techniques
- Passive Heating & Cooling
- PLEA (Passive and Low Energy Architecture) Conference Proceedings
- Sustainability Theories & Issues
- Ventilation

Books and papers that relate to more than one topic category may be listed more than once. The symbol <see also:> is used to cross-reference the topic categories; it also highlights additional bibliographical sources. All of the publications listed here are available at the AA Library in printed and/or digital forms. Moreover, some of the Required and Recommended items can be downloaded in pdf format from the programme’s EE folder which is on the AA School's File Server. These items are identified below with [FS]. Access to the AA File Server requires registration with the AA Computer Lab at the beginning of the academic year. Items available on CD or memory stick are identified below with [CD].

The AA Library provides online access to numerous resources including scientific and architectural journals and technical guides with relevant information for the SED course. Students must follow the induction events organised by the Library. The AA Library can also order copies of papers for students through the British Library. Open University library resources are also available to AA students and can be accessed at: www.open.ac.uk/library/libpartnerships. Advice on reading and discussion of selected readings will be a regular feature of the weekly Research Seminar in Term 1. Further reading material will be introduced as the year progresses.

Built Examples, Case Studies


*City Microclimates, Design of Outdoor Spaces*


see also http://www.metoffice.gov.uk/climatechange/

Comfort, Post-Occupancy Evaluation, Behaviour Studies
Baker N V. (2001). We are really outdoor animals. Moving comfort standards in the 21st century Conf.
[FS].

see also Design Principles section
see also: PROBE (Post-occupancy Review of Buildings and their Engineering) case studies at: www.usablebuildings.co.uk/
**Daylighting**


www.revival-eu.net [FS]


see also The European Database of Daylight and Solar Radiation www.satel-light.com/core.htm

**Design Principles**


Gething, B. and K. Puckett (2012). Design for Climate Change. RIBA.


see also sections on: Passive Heating and Cooling; Ventilation; Daylighting; Solar Control.

see also multilingual glossary of terms: www.eesc.europa.eu/resources/docs/eesc-2011-01-en-fr-de-es.pdf

Environmental Engineering


Environmental Targets & Benchmarks, Environmental Analysis Tools & Data

ASHRAE. Handbook of Fundamentals. American Society of Heating Refrigerating and Air Conditioning Engineers.

Environmental Assessment, Life Cycle Costing

RIBA (no date). Climate Change Tools. Royal Institute of British Architects. See in particular the booklets on Whole Life Assessment for Low Carbon Design and Carbon Literacy Briefing.
see also: BRE Green Guide www.bre.co.uk/greenguide
see also: BREEAM www.breeam.org/

Materials & Construction Techniques


Passive Heating & Cooling


PLEA Conference Proceedings

PLEA 2016, Los Angeles, USA; see AA Library for proceedings.
PLEA 2015, Bologna, Italy see Book of Abstracts and online at plea2015
PLEA 2014, Ahmedabad, India see online at: plea2014.in/proceedings/
PLEA 2013, Munich, Germany see online at: plea-arch.org
PLEA 2012, Lima, Peru see online at: plea-arch.org


see plea-arch.org for free access to PLEA Proceedings online

Sustainability Theories & Issues


Ventilation

**Publications by SED Students & Staff in 2015-16**

SED projects are presented and published regularly in international conferences and journals. Many recent dissertation projects have been presented at PLEA conferences, most recently at PLEA 2016 held in Los Angeles, USA 9-11 July 2016.


**Reshaping Cities after a Natural Disaster** Amedeo Scofone with Simos Yannas In Proc. PLEA 2015, Bologna.

**Learning from the Traditional Jaali of India** Pavitra Sanath Kumar with Simos Yannas In Proc. PLEA 2015, Bologna.


**Reshaping The Urban Block** Byron Mardas In Proc. PLEA 2015, Bologna.


**Sunspaces - A Retrofit Study for Bucharest** Alexandra Andone with Simos Yannas In Proc. PLEA 2015, Bologna.


**Bay Windows of High-Rise Residential Buildings In Hong Kong** Chad McKee with Simos Yannas In Proc. PLEA 2016, Los Angeles.


**Migrant Centre and Primary School In Lampedusa** Andrea Rossi, Pierluigi Turco, Simos Yannas. In Proc. PLEA 2015, Bologna (Best Project Award).

Enhancing Public Life - Bioclimatic Strategies For Outdoor Spaces In Valencia

Pocket Parks in Sao Paulo- Potential for Implementation

Improving Pedestrian Thermal Sensation In Dubai

Microclimate Design for open spaces: ranking urban design effects on pedestrian thermal comfort in summer.

Microclimate Development in open urban spaces: the influence of form and materials.

Passive Techniques For 24-Hour Work Environments In Bangalore
Shravan Pradeep with Paula Cadima

Reactivating The Courtyard For Work Environments In Mediterranean Regions

Courtyards As Learning Spaces In Primary Schools

Lessons From The Masters - A Study Of Educational Buildings In India

Exhibition of 12 AA SED Dissertations on India at the PLEA 2014 Conference in Ahmedabad, December 2014.
8.2 Internet Sources

AJ Sustainability
http://www.architectsjournal.co.uk/designingbuildings/sustainability/index.html

Biomimicry Database
http://database.portal.modwest.com/start.php

BUILD UP: European portal for energy efficiency in Buildings
http://www.buildup.eu/

British Library
http://www.bl.uk/

Building Green
www.buildinggreen.com

Building Research Establishment (BRE)
www.bre.co.uk

CIBSE
www.cibse.org

Construction Resources
Ecological building materials
www.constructionresources.com/

Department of the Environment, UK: Sustainable development, building regulations, etc.
www.defra.gov.uk
www.sustainable-development.gov.uk

Earth Systems Environmental Virtual Library
http://earthsystems.org/Environment.shtml

ECOark Environmentally Friendly Projects and Urban Ecology Initiatives (Norway)
www.ecoarc.net

EDUCATE
www.educate-sustainability.eu/

EnergyPlus.net
Documentation
http://ec.europa.eu/research/research-eu/

Eurostat European Statistics
http://europa.eu.int/comm/eurostat/

Florida Solar Energy Center
Building Case Studies and other information
www.fsec.ucf.edu/bldg/baihp/casestud/index.htm

Global Eco-Village Network
www.gaia.org/index.htm

Grasshopper for Rhino
http://www.grasshopper3d.com/

Green Building Council
www.ukgbc.org

Housing Energy Efficiency, UK
www.housingenergy.org.uk

International Energy Agency Renewable Energy Projects
http://www.caddet-re.org/

International Institute for Sustainable Development
www.iisd1.iisd.ca

International Union of Architects
www.uia-architecture.org

Lawrence Berkeley Laboratory
www.lbl.gov/

London Ecological Footprint
www.citylimitslondon.com

Macquarie University’s Adaptive Comfort Project
http://atmos.es.mq.edu.au/~rdedear/ashrae_rp884_home.html

MIT Design Advisor
http://designadvisor.mit.edu/design/
National Refurbishment Centre:
http://www.rethinkingrefurbishment.com

NCEUB Network for Comfort and Energy Use in Buildings
www.nceub.org.uk

Open University
www.open.ac.uk

Open Studio / Energy Plus
www.openstudio.net/

Passive and Hybrid Downdraught Cooling
www.phdc.eu

PLEA (Passive and Low Energy Architecture) Sustainable architecture and urban design
www.plea-arch.org

POWER HOUSE Part of EU-funded Intelligent Energy Europe Programme
www.powerhouseeurope.eu

Radiance
http://Radsite.lbl.gov/radiance/

RETScreen Renewable Energy Project Analysis Software
http://retscreen.gc.ca

RIBA Royal Institute of British Architects (Student membership)
http://members.riba.org/student

Satel-light Database
http://www.satel-light.com/core.htm

Sciencedirect.com
to locate scientific journal papers

Solstice Online source for sustainable energy information
http://solstice.crest.org

Sustainable Development Gateway
http://sdgateway.net

Tas
edslnet

UK Weather Information Site
http://www.weather.org.uk/index.htm

United Nations Environment & Climate Change Programme UNEP
http://www.unep.ch/iucc/

Usable Buildings (PROBE Studies)
http://www.usablebuildings.co.uk/

US Department of Energy National Renewable Energy Laboratory (NREL)
http://www.nrel.gov

World Architecture Community
http://www.worldarchitecture.org/main/

World Meteorological Organisation
http://www.wmo.ch

Weather Data (Met Office Integrated Data Archive System)
http://catalogue.ceda.ac.uk/uuid/220a65615218d5c9cc9e4785a3234bd0
## Course Credits, Learning Outcomes & Assessment Criteria

### 9.1 Course Credits

The course credits, learning outcomes and assessment criteria listed below encompass team projects, technical studies, research papers and dissertations for each term of the academic year. The hourly breakdowns are indicative.

<table>
<thead>
<tr>
<th>TERM</th>
<th>Hours</th>
<th>Credit</th>
<th>% total</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>TERM 1</strong></td>
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<td></td>
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</tr>
<tr>
<td><strong>PROJECT I</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lecture course attendance</td>
<td>50</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Workshops, Tutorials &amp; Class Presentations</td>
<td>20</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reading &amp; Research &amp; Design &amp; Presentation</td>
<td>180</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Subtotal</strong></td>
<td>250</td>
<td>25</td>
<td>14%</td>
</tr>
<tr>
<td><strong>RESEARCH PAPER</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Course attendance</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Seminars, tutorials</td>
<td>10</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reading &amp; Research</td>
<td>30</td>
<td></td>
<td></td>
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<tr>
<td>Writing &amp; Illustrating</td>
<td>40</td>
<td></td>
<td></td>
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<tr>
<td><strong>Subtotal</strong></td>
<td>100</td>
<td>10</td>
<td>5.5%</td>
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<tr>
<td><strong>TECHNICAL STUDIES</strong></td>
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<tr>
<td>Course attendance</td>
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<td></td>
<td></td>
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<td>Workshops, tutorials</td>
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<tr>
<td>Analytic work</td>
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<tr>
<td>Writing &amp; Illustrating</td>
<td>30</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Subtotal</strong></td>
<td>100</td>
<td>10</td>
<td>5.5%</td>
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<tr>
<td><strong>TOTAL TERM 1</strong></td>
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<td>25%</td>
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<td><strong>TERM 2</strong></td>
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<td><strong>PROJECT II</strong></td>
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<tr>
<td>Lecture course attendance</td>
<td>50</td>
<td></td>
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<tr>
<td>Workshops, Tutorials &amp; Class Presentations</td>
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<td>Reading &amp; Research &amp; Design &amp; Presentation</td>
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<td><strong>Subtotal</strong></td>
<td>250</td>
<td>25</td>
<td>14%</td>
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<tr>
<td><strong>RESEARCH PAPER</strong></td>
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<td>Course attendance</td>
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<td>Seminars, tutorials</td>
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<td>Reading &amp; Research</td>
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<td>Writing &amp; Illustrating</td>
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<td><strong>Subtotal</strong></td>
<td>100</td>
<td>10</td>
<td>5.5%</td>
</tr>
<tr>
<td><strong>TECHNICAL STUDIES</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Course attendance</td>
<td>10</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Workshops, tutorials</td>
<td>20</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Analytic work</td>
<td>40</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Writing &amp; Illustrating</td>
<td>30</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Subtotal</strong></td>
<td>100</td>
<td>10</td>
<td>5.5%</td>
</tr>
<tr>
<td><strong>TOTAL TERM 2</strong></td>
<td>450</td>
<td>45</td>
<td>25%</td>
</tr>
<tr>
<td><strong>TERMS 3 &amp; 4</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>DISSERTATION PROJECT</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Seminars, reviews, &amp; tutorials</td>
<td>50</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reading, Research &amp; Writing</td>
<td>850</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>TOTAL TERMS 3 &amp; 4 DISSERTATION PROJECT</strong></td>
<td>900</td>
<td>90</td>
<td>50%</td>
</tr>
</tbody>
</table>

| | 1800 | 180 | 100% |
In Term 1, the course work submitted for assessment consists of a team project (25 credits for each team member), technical studies (10 credits for each member when submitted as team) and a research paper (individual submission worth 10 credits). Technical studies can be part of project work. The work of each student must be clearly identified in all team work. Term 1 accounts for a total of 450 study hours representing 45 credit units or 25% of the total credit for the MSc / MArch in Sustainable Environmental Design (see above for a breakdown of study hours and credit units).

In Term 2 the assessed course work consists of a team project (25 credits), a technical study (10 credits) and a research paper (10 credits) as in Term 1. Term 2 accounts for a total of 450 study hours representing 45 credit units or 25% of the total credit for the MSc / MArch in Sustainable Environmental Design (see above for a breakdown of study hours and credit units).

In Terms 3 & 4 the assessed work consists of the Dissertation Projects which is undertaken individually. Dissertation Projects account for a total of 900 study hours representing 90 credit units or 50% of the total credit for the MSc / MArch degree.

9.2 Term 1 Project I

Credit Units
25 credit units (13.9% of total credits) 250 study hours including attendance of relevant lecture courses and other programme activities (see below for breakdown).

Brief
Study of environmental attributes, design features and performance of urban environments and building structures. The project makes use of all the inputs, tools and resources provided by the taught programme in Term 1. The Project Brief is distributed and introduced on Week 2 of Term 1 and project work starts on the same week. Work on Project I is in teams of 4 students.

Aims
The project aims to develop observational, analytic and synthetic skills, and the ability to ask and answer questions using the knowledge, scientific instruments and computational tools provided by the taught programme. It also tests how individual students perform as part of a team. It is typical of work graduates from the programme may be doing in practice.

Learning outcomes:
On completion of this project students can be expected to be able to:

i. undertake field studies involving building surveys, occupant interviews and environmental measurements.

ii. undertake a critical appraisal of the environmental design attributes of buildings and outdoor spaces using on-site observations and measurements, as well as comparative performance data and calculated results.

iii. make proposals for improvements to existing buildings and outdoor spaces taking account of specificities of site, climate, building type and form, construction and occupancy.

Project Assessment criteria:
Assessment of project reports is based on the following criteria:

i. understanding of the principles, methods and tools introduced by the taught programme

ii. application of observational skills and critical faculties

iii. ability to test research hypotheses and find new data

iv. demonstration of innovative thinking and creativity

v. clear structure, writing and presentation of project results

vi. referencing of sources of information using agreed conventions

vii. individual contributions within the team.

9.3 Term 2 Project II

25 credit units (13.9% of total credits) 250 study hours including attendance of relevant lecture courses and other programme activities (see below for breakdown).
**Brief**
The findings of the Term 1 projects provide starting points for a new round of team projects focusing on the design of adaptive environments. The Project Brief is distributed and introduced at the beginning of Term 2. Work on Project II will be in teams of 4 students.

**Aim:**
To apply the knowledge and tools provided by the taught programme to the development of design proposals for a specific building programme, climate and site.

**Learning outcomes:**
On completion of this project students can be expected to be able to:

i. develop designs for new buildings and urban environments taking account of the specificities of climate, site, and building type and exploring the possibilities offered by new materials and technologies

ii. use information from built precedents to complement and support analytic work and as means of explaining / justifying design decisions

iii. use selected environmental performance assessment and design research tools as and where needed to inform design decisions and assess the environmental impact and performance of proposed designs.

**Assessment criteria:**

i. learning from built precedents and contextual studies to inform design

ii. clear approach in the formulation and investigation of design concepts and hypotheses

iii. application of new knowledge and analytic tools introduced by the taught programme

iv. ability for comparative analysis and interpretation

v. demonstration of innovative thinking and creativity

vi. adherence to project brief and preset requirements

vii. clear structure, writing and presentation of project results

viii. individual contributions within the team.

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**9.4 Terms 1 & 2 Research Papers / Technical Studies**

**Credit Units**
Each Research Paper / Technical Study is equivalent to 10 credit units (5.5% of total credits) representing 100 study hours including attendance of compulsory taught components (see detailed breakdown). Each student must complete and submit one Research Paper and one Technical Study in each of the first two terms.

**Topics:**
Research Papers are critical reviews of published literature on any of the topics covered by the programme’s lectures and project work. Submission format is to be based on a paper template that will be introduced in the Research Seminar. Maximum size of Review Paper submission: 3,000-4,000 words.

Technical Studies are reports on analytic work undertaken on Projects I and II using the tools introduced in the Tools course and Design Research Workshop. They are submitted as part of team project documents.

**Aims:**
Doing research; familiarisation with relevant literature and research methods; organising and writing research papers and technical reports; learning to use specialist environmental design support tools and software; planning and undertaking analytic work, processing, interpreting and presenting results.

**Learning outcomes:**
On completion of these assignments students can be expected to be able to:

i. undertake critical appraisals of theoretical and technical concepts of environmental design in architecture and urbanism

ii. have a better understanding of selected literature

iii. make use of appropriate analytical tools in conducting environmental design research

iv. have better understanding of how to plan, undertake, interpret and present research results.
Assessment criteria:
i. familiarity with the relevant literature
ii. knowledge and understanding of the principles and tools introduced by the taught programme
iii. demonstration of observational skills and critical faculties
iv. ability for comparative analysis and meaningful generalisation.
v. clear approach to formulating and investigating research questions and arguments
vi. meaningful use of analytic tools in testing hypotheses and finding new data
vii. referencing of sources of information using agreed conventions
viii. clear and concise writing and presentation of research results.

9.5 Terms 3 & 4 Dissertation Project

Credit Units
90 credits (50% of total credits) representing a minimum of 900 student learning hours including attendance of seminars and review sessions.

Brief
The dissertation topic is set in consultation with tutors following the criteria and requirements for the MSc and MArch; see section 10.

Aim:
The Dissertation Project is a vehicle for undertaking a significant piece of research that reflects the programme's areas of research and students' personal interests, background, special skills and plans for the future. For the MArch the dissertation research is followed by a design application that must be developed in some detail for a given design brief, site and climate. The MSc dissertation deals with design applicability of research results across different climatic regions or building types and as such has a broader scope than the MArch dissertation.

Learning outcomes:
On completion of the MSc / MArch dissertation project students can be expected to be able to:
i. undertake critical reviews of environmental design topics in contexts of their choice
ii. study the environmental attributes of selected buildings and urban contexts
iii. engage in design research investigating aspects of environmental sustainability
iv. use analytic tools to inform design decisions and/or assess environmental impact and performance of buildings and cities
v. develop design proposals and design applicability studies for new and existing buildings taking account of the specificities of climate, site, building type and architectural form
vi. assess the possibilities and potential offered by new materials and technologies
vii. plan, document and illustrate research results encompassing fieldwork, analytic work and design proposals.

Assessment criteria:
i. Knowledge and understanding of the principles, methods and tools introduced by the taught programme
ii. Application of critical faculties and observational skills
iii. Ability to use field studies and analytic tools to test research hypotheses and find new data
iv. Application of new knowledge and tools in design research and practice
v. Demonstration of innovative thinking and creativity
vi. Responsible application of technical knowledge and analytic tools
vii. Clear and concise writing and visual presentation of project results
viii. Referencing of sources of information using agreed conventions.
10 ORGANIZATION & SUBMISSION OF DISSERTATION PROJECTS

10.1 Choice of Dissertation Topics

The dissertation project is the final and most substantial piece of work for the MSc and MArch. Students are expected to confirm their choice of dissertation topic by the end of Term 2. This is formalised with the submission of a written outline followed by oral presentation to a review panel. The outline should identify the climatic region, urban context, building type and precedents (vernacular as well as contemporary), and particular environmental design research problems to be tackled. The development of dissertation research is supported by weekly individual tutorials. A list of MArch, MSc and MA Dissertations completed since the programme’s initial validation for a Masters degree in 1994 is included in the Appendix.

10.2 Preparation of Dissertation Research Outline & Plan of Work

A written outline of the proposed Dissertation Project must be submitted by the end of Term 2. This should provide the following:

i. **Descriptive title** of Dissertation Project

ii. **Overview of proposed research area**: what is the topic, why is it of interest, what are the problems identified from the literature or through work accomplished so far this year, how to approach them.

iii. **Research questions and hypotheses**: specific topics to investigate.

iv. **Methodology**: how research hypotheses are to be tested. This may include:
   - *literature review* published sources consulted and to be consulted.
   - review of relevant *built precedents*.
   - *fieldwork* (if any); where, when, for how long and with what expected outcome.
   - *analytic work* (if any); what parameters will be considered, how are results to be assessed.

v. **Expected outcome(s)**: what kind of outcomes are expected from the research and how you expect to communicate them and / or use them in practice.

vi. **Sources & Key references**: List of sources already consulted as well as those to be consulted.

vii. **Timetable**.

10.3 Dissertation Document Structure & Contents

The Dissertation for the MSc / MArch Sustainable Environmental Design is an illustrated book of no more than 15,000 words for the MSc and no more than 12,000 words for the MArch summarising the Dissertation Project as described below.

i. **Cover Page**: this must include the title of the Masters degree: MSc or MArch Sustainable Environmental Design 2016-17 or 2016-18; the name of the school: Architectural Association School of Architecture; the title and subtitle of the Dissertation Project; student name(s) and surname(s); type of submission (Dissertation), month and year of submission (September 2017 for the MSc, January 2018 for the MArch.

ii. **Abstract**: summary of dissertation project and its key findings (1-2 paragraphs).

iii. **Authorship Declaration Form** (see 10.5 below)

iv. **Table of contents**: a numbered list of Chapter headings and subheadings and the page number of the start of each section.
v. **Acknowledgments:** individuals and/or institutions acknowledged for having helped with information, support, sponsorship (including bursaries and scholarships, e.g. Commonwealth Scholarship, AA School Bursary).

vi. **Introduction:** summary of issues, problems and questions which led to the choice of the DP topic; what is the dissertation aiming to do; research questions and hypotheses tested; how was the work carried out (including reference to methods and tools used); summary of results obtained; how are the contents organised and presented (2-3 pages).

vii. **State-of-the-Art / Literature Review** (or any other appropriate title): Critical review of published literature identifying and characterising the problems being addressed by the dissertation; formulation of research hypotheses. This chapter must demonstrate knowledge and understanding of the relevant literature not just your ability to quote or paraphrase from it. (10 pages or longer including illustrations).

viii. **Context & Precedents** (or any other appropriate title): This may be a single Chapter or a multichapter Part. **Context** information should include weather data and climate analysis in a concise and meaningful manner. Introduce urban context and issues; this could be more or less extensive depending on your topic. **Precedents** should be a critical review of historical, vernacular and contemporary built examples. It is better to have few well selected case studies that were visited and looked at in some detail than many examples that are shown superficially (Context and Precedents could add up to a total of 15-20 pages or more).

ix. **Fieldwork** (if any): Brief overview explaining why the fieldwork was undertaken, what it involved, how it was done, with what results and how are the results used in the dissertation.

x. **Analytic Work:** This could comprise separate chapters for different types of analytic work; each section must include explanations on what the analytic work was performed for, how spaces were modelled, what parameters were considered, what values were given to these parameters, what results were obtained, how these informed the DP’s research questions, etc. Further information on assumptions, input data, and outputs from individual runs should be included in an appendix.

xi. **MSc Research Outcomes & Design Applicability** (or any fitting title relating to your project): Synthesis of the various research threads and results from literature, field studies and analytic work. Translation into design applicability proposals. **MArch Research Outcomes & Design Application** (or any fitting title relating to your project): Synthesis of research threads and results from literature, field studies and analytic work. Translation into design brief and design application.

xii. **Conclusion:** summary of main findings and proposals (1-2 pages).

xiii. **References:** listing of all published and unpublished sources consulted including Internet sources (see further information in this Programme Guide on how to cite bibliographical sources).

xiv. **Appendices** (if any) with complementary information or data.

10.4 **Referencing Conventions**

*Citation of sources of information*

All sources of information and data must be cited in project documents, research papers and dissertations. This must follow the conventions introduced below. Sources to be cited include books and other publications (journal and conference papers), material presented in lectures or given in a private communication (a tutorial, interview, telephone conversation, email message etc.) by SED staff, invited speakers, architects whose buildings were studied, occupants, etc. Information generated by taking measurements, processing data, performing simulations and/or by producing drawings and designs should also be attributed to sources consulted and the tools that were used in the process.

*a) Citation within main body of text:* References to bibliographical sources should be incorporated into your sentence syntax in one of the following ways:
Recent work (Smith, 2008) suggests that . . .
Early studies (Smith, 1975; Smith and Jones 1980; Jackson 1990) . . .

b) Tables and Figures: the source must be cited below the table or figure. Example: (Source: Smith 2000). Tables or figures prepared especially for the document being submitted do not need to have a source cited unless some of the data contained were originated by others than the student submitting the work. However, previous works by the student should be cited if used as a source.

c) Quotations: A quotation is an exact reproduction of a statement or passage of text written by someone else. A quotation is always inserted in quotation marks and the text is formatted so as to be clearly differentiated from the main body of your text. For example:

“Cities that are beautiful, safe and equitable are within our grasp.”
(Rogers, Cities for a Small Planet, 1997)

Quotations should be followed (or preceded) by citation of their source using one of the citation conventions listed above. Reproduction of work by others verbatim without reference to the source is plagiarism, a most serious offence that can lead to disqualification from the degree (see AA Student Handbook and Academic Regulations for details).

d) Footnotes: footnotes at the bottom of the page can be used to comment on a source of information, statement or fact, or provide a definition or clarification, without interrupting the flow of the main text.

e) References: All sources cited in the text should be listed at the end of research papers and reports. Both published and unpublished items should be listed. There are several different ways of doing this. The following system should be followed on SED submissions:

• start with the first author’s (or editor’s) surname(s) followed by the initial(s) of his/her first name(s); where there is more than one author or editor, the names of the second and subsequent authors/editors should be preceded by a comma and entered initial first followed by surname (see examples below),
• next enter, placed in parenthesis, the year of publication or completion; where the person named is not the author but the editor of the document, precede the date with “Ed.” (see examples below)
• next type the title of the book or paper followed by the subtitle (if any), and/or title and other details of publication where the referenced item appears (e.g. in the case of a paper which is published in a journal or a volume of conference proceedings); highlight the title of the publication in bold or italics. (see examples below)
• next list (for papers or sections of books which are referenced) the page numbers relating to the start and end pages being referenced.
• next give the publisher’s name.

Examples:
Smith, J. Private communication. 12 August 2013.

Figures and Tables
The word “Figure” applies to all illustrations (drawings, photographs, maps, graphs, diagrams, sketches, computer screen shots, etc.). No other word should be used instead. All figures must be numbered and
titled. The number and title of a figure should be placed below the figure. All figures must be referenced and discussed in the main body of the text. In the text refer to a figure as Fig. nn in the middle or end of a sentence or as Figure nn at the beginning of a sentence. The word "Table" describes any list or matrix of textual or numerical data. Tables included in a document must be numbered and discussed in the text by referring to this number. The number and title of a table (TABLE nn. TITLE) should be placed above the table. The sources of all tables and illustrations of which you are not the original author must be given in parenthesis after their title (Source: <name of source=surname of author and date of publication if source is published paper /book). The full reference should be listed in the References section at the end of your document using the referencing conventions given above.

10.5 Submission Requirements for Dissertations

All submissions are to the Graduate School Administrative Coordinator’s Office. Dissertation documents should be hardbound with black covers and must be submitted in two copies. Covers should be inscribed along the spine to include the following from left to right: <student first name and surname> <MSc 2017> or <MArch 2018>. There should be no inscription on the front or back covers of the document. Each copy must have an inside cover page which must contain the following information:

- Architectural Association School of Architecture
- AA SED Graduate School
- MSc (or MArch as appropriate) Sustainable Environmental Design
- Dissertation Project 2016-17 (2016-18 for MArch)
- Full Title and Subtitle of the Dissertation Project
- Student first name(s) and surname(s)
- September 2017 (MSc); January 2018 (MArch)

There is freedom in formatting and placing these titles, but the exact wordings should be as listed above. Dissertation Documents should be in A4 Portrait Format unless agreed otherwise. The size of the text of the MSc Dissertation must not fall much below or rise substantially above 15,000 words (excluding appendices and bibliographical references). MArch Dissertations are expected to contain less text but substantially more visual material to illustrate the design application. All pages must be numbered including appendices. Sheets should be printed on both sides using paper of sufficient thickness. Text should be formatted single space using Arial or similar font, typesize 10 points for the main body of text, 8 points for captions. A convenient layout for Dissertation documents is to have the text formatted in a single column on the left or right hand page with figures and illustrations placed on the opposite page. Margin sizes are left to candidates’ choice. All Figures and Tables must be numbered, titled and referenced following the guidelines given below. Dissertation documents must be accompanied by a CD containing the full document in PDF format. In addition, all illustrations must be included individually in a folder titled <Images> in JPG format at 300 dpi resolution in their original size. Finally, the CD should also include a folder titled <Models> containing the computer models and outputs produced using the environmental software introduced by the taught programme. The student’s full name should be written on the surface of the CD accompanied by the words MSc Dissertation 2017 (or MArch Dissertation 2018). Dissertation documents must include a signed Authorship Declaration Form certifying that the contents of the document is the work of the signatory and that use of material from the work of others is duly acknowledged. The form should be bound into the document in a prominent position after the cover page. In addition to printed document and CD, a pdf file of the dissertation must be uploaded to the students’ folders on the File Server. These pdf files are used for assessment and must therefore include the complete work. The deadline for the submission of 2016-17 MSc Dissertations is the 15th September 2017. The deadline for the submission of 2016-18 MArch Dissertations is the 26 January 2018.

11 ORGANIZATION & SUBMISSION OF COURSE WORK

11.1 Project Reports and Research Papers

In each of Terms 1 and 2 the course work submitted for assessment and credit consists of a team project, including individual technical studies, and an individual research paper. Project briefs are handed out at the beginning of each term. All course work submissions are to the Graduate School Administrative Coordinator’s Office. Each document submitted for assessment must include a signed
Authorship Declaration Form to certify that the contents are the students’ own work and that use of material from the work of others is duly acknowledged. The form should be bound into the document in a prominent position after the cover page. Course work items are submitted in a single copy only. This must be bound with metallic spiral ring binding. Team project reports are normally submitted in A3 Landscape format. All other submissions are in A4 Portrait Format unless otherwise agreed. Each document must have a cover page with the following information:

- Architectural Association School of Architecture
- AA SED Graduate School
- MSc / MAarch Sustainable Environmental Design
- Term 1 (or 2) Project (or Research Paper) 2016-17
- Full Title / Subtitle of Project / Paper
- Student first name(s) and surname(s)
- December 2016 or January 2017 (for Term 1 submissions); March or April 2017 (for Term 2 submissions).

There is freedom in formatting and placing these titles, but the exact wordings should be used as listed above. All submissions must be accompanied by a CD containing the full document (including illustrations) in PDF format. In addition, all illustrations must be included individually in a folder titled <Images> in JPG format at 300 dpi resolution in their original size. The students' full names should be written on the surface of the CD accompanied by AA SED 2016-17 and the Project / Research Paper title. In addition to printed document and CD, a pdf file of each team project and research paper must be uploaded to the students’ folders on the File Server. These pdf files are used for assessment of course work and must therefore include the complete work.

11.2 Document Structure for Research Papers

All submissions must include the following sections:

- **Cover page**: this must include the information listed above.
- **Authorship Declaration Form**
- **Abstract**: a very brief summary of the paper (1 paragraph).
- **Table of contents**: a numbered list of the main headings and subheadings of the paper and the page number of the start of each section.
- **Acknowledgements**: individuals who have helped or provided resources, advice and information (including acknowledgment of sponsorships, bursaries or scholarships toward your studies at the AA School).
- **Introduction**: overview of issues and questions which led to the chosen topic with reference to the relevant literature; what did your paper set out to do and how; results obtained; how is your paper structured (1 page).
- **Main body of the document**: subdivided according to thematic, procedural or methodological criteria.
- **Conclusions**: summary of main findings and proposals.
- **References**: published and unpublished sources consulted including Internet sources (see below for academic conventions on how to cite bibliographical sources).
12 STAFF CV’s

Teaching Staff
SIMOS YANNAS
PAULA CADIMA
JORGE RODRIGUEZ ALVAREZ
KLAUS BODE
GUSTAVO BRUNELLI
HERMAN CALLEJA
MARIAM KAPSALI
BYRON MARDAS

Visiting Lecturers
NICK BAKER
JOANA SOARES GONÇALVES
SIMOS YANNAS  DiplArch  AADiplGrad(Hons) PhD
Director MSc / MArch Sustainable Environmental Design
Chair PhD Committee
Member AA Academic Board

Simos Yannas has led environmental design research and teaching at the AA since the late 1970’s. He has taken part in national and international research projects in many countries and his books and papers have been published in over a dozen languages. His most recent publications are on adaptive architecture, on learning from vernacular architecture and on refurbishing the city. He is a founding member of the PLEA international network on sustainable architecture and urban design.

EDUCATION
1970   Diploma Architect-Engineer, Dept. of Architecture, National Technical University of Athens.
2000   PhD, AA / OU Research School.

TEACHING
2003-13 Course Director, AA Diploma School Technical Studies and Histories & Theories.
2004-  Director, AA School PhD Programme
2005-  Director, MSc and MArch Sustainable Environmental Design, AA Graduate School, London.
2008-10 Sir Isaac Newton Design Fellow in Architecture, University of Cambridge

Has also lectured at:
Aarhus School of Architecture; University of Madrid; University of Navarra; University of Pennsylvania; Université Catholique de Louvain; ETH Zurich; British University in Dubai; University of Cambridge; Universidad Internacional de Andalucia; Federal University of Sao Paulo; American University of Sharjah; Kuwait University; University of Nottingham; Technical University of Crete; Aristotle University of Thessaloniki; Technical University Lisbon; Middle East Technical University; CUEPE, Université de Geneve; Technical University Berlin; Universidade Federal do Rio de Janeiro; University of Dortmund; National Technical University of Athens; University of Patras; Ecole d’Architecture de Toulouse; University of Buenos Aires; Technical University Budapest; Universidade Federal Santa Catarina; Pontificia Universidad Catolica de Chile, Santiago; Development Planning Unit, University College London; Georgia Institute of Technology; University of Ljubljana; School of Architecture, Rabat; Lawrence Berkeley Laboratory; Bangladesh University of Engineering and Technology; Politecnico di Milano; University of Zulia, Maracaibo.

RESEARCH PROJECTS & TECHNICAL STUDIES
Environmental design research since the mid-1970s. Research interests on effect of climate change on urban environments and building design; environmental assessment of architectural forms and building types; design of adaptive systems for free-running buildings.

2015-17 Environmental Performance of Traditional Buildings in S. Arabia with College of Design, University of Dammam
2015-17 Handbook of Sustainable Housing Design. RIBA Research Award.
2006-08 Reconcieving the Architecture of the Gulf Region. With Harvard University Centre for Middle East Studies and Schools of Architecture in Kuwait, Abu Dhabi and Sharjah.
2002 A comparative study of building materials and construction techniques in Turkey. With Middle East Technical University, Ankara under British Council Britain-Turkey Science Partnership.
2000-04 Roof Cooling Techniques. With Laboratory of Thermodynamics, University of Seville and Centre for Desert Architecture and Planning; support under EC Altener Programme.
1999-02 **IDEA - Interactive Database of Energy-Efficient Architecture.** In collaboration with University of Siegen, Catholic University of Louvain, CNRS, CUEPE, University of Geneva and support from European Commission DG TREN.

1999-01 **Passive Cooling Handbook.** In collaboration with School of Engineering University of Porto, Department of Physics University of Athens and School of Engineering University of Seville and support from European Commission Altener Programme.

1996-98 **Roof Solutions for Natural Cooling (ROOFSOL).** In collaboration with several European partners with support from EC Joule Programme. Development of experimental and analytic techniques for the study of radiative and evaporative cooling processes in Mediterranean climatic conditions.

1996-97 **Alfa-Built Project.** In collaboration with University of Athens, University of Buenos Aires, Federal University of Rio de Janeiro, University of Venezuela and support from EC Alfa Programme study of passive heating and cooling of buildings in Latin American contexts.

1994-96 **Bioclimatic Architecture and Urban Design in Rio.** In collaboration with FAU Universidade Federal do Rio de Janeiro and support from the British Council, CAPES and CNPq. Measurements and observations in selected buildings and outdoor spaces to study indoor and outdoor variations microclimates and implications on occupant thermal and visual comfort.

1992-95 **Passive Cooling of Buildings (PASCOOL).** In collaboration with Universities of Athens (coordinator), Seville, Porto, La Rochelle, Geneva and Milano and Conphoebus (Italy), ENTEPE (France), CRES (Greece), TNO (Netherlands) and the Belgian Institute of Building Research with support under EC DG-XII Joule II Programme.

1992-94 **Architecture and Climate Portfolios.** Collaboration with University College Dublin and Catholic University of Louvain with support from European Commission DG-XII Solinfo 2 Programme.

1991-93 **Building Science and Environment-Conscious Design.** EC TEMPUS Joint European Project. In collaboration with Technical University of Budapest and University of Ljubljana. Teaching environmental design with topics spread over 12 publications.

1990-98 **Climate-Responsive Design for Bangladesh.** Collaboration with Bangladesh University of Engineering and Technology and the UK Building Research Establishment (BRE) with support from a British Council Link Project.


1986-94 **Solar Energy and Housing Design.** Research on passive solar heating for residential buildings undertaken in the context of the UK Passive Solar Programme to produce a design manual and calculation procedure.

1985-86 **Passive Solar Handbook Definition Study.** Commissioned by ETSU, UK Department of Energy, Solar Energy R&D.


1982- **Founding Member of PLEA (Passive and Low Energy Architecture) international network of experts; Director 1991-96, permanent Secretary from 1997. Member of Scientific Committees of annual PLEA Conferences 1983- to present.**

1979-82 **Energy Systems and Design of Communities.** In collaboration with T. Papayannis & Associates and colleagues from other countries in the context of International Energy Agency IEA Task 6.

1979-83 **Energy Education in Schools.** An experimental project supported by the UK Dept of Education and Science & Dept. of Energy and undertaken in collaboration with the Essex County Architects and Education Departments. The project led to the adoption of energy education in the curricula of schools across the UK.


**PROJECT EXHIBITIONS**

2014 16-18 December. Twelve Projects in India. PLEA 2014 Conference, Ahmedabad, India

2011 12-15 July, PLEA 2011 International Conference, Louvain-la-Neuve Belgium

2007 13-17 February. Dynamic Structure. American University Sharjah, UAE.
2004 AA Now Exhibition, Ljubljana, Slovenia (later touring around Europe).
2004 20-23 April. Shelter for Archaeologists, Oia, Santorini, Greece.
2003 5-30 May. Exhibition of school shelter built at Pankese Village, Ghana.
2003 Exhibition winning student entry to Mediterranean Architecture Competition, Athens.

OTHER ACADEMIC & PROFESSIONAL ACTIVITIES

Supervision of PhD Research Students

Quintino, G. (PhD Awarded 2002). Environmental Aspects of Traditional Building Techniques In South-Western Portugal. AA Graduate School, London.


External Examiner & Reviewer

2009-13 External Examiner, MSc Environmental Design of Buildings, Welsh School of Architecture.

2009-13 External Examiner, MSc Sustainable Design in Built Environment, British University in Dubai.


2004-05 Member, Search Committee for Director of AA School of Architecture.

2002-05 External Examiner, BArch 5th Year, Welsh School of Architecture, Cardiff University.

2001-04 External Examiner, MPhil Environmental Design in Architecture, University of Cambridge.


1999 Research Assessor for Fondacyt Research Council, Chile.

1998-01 External Examiner, MSc Advanced Environmental & Energy Studies, Univ. of East London.

1995 Member Jury Architectural Competition Sustainable Housing for the Poor, Gramado, Brazil.


1993 Member Technical Committee & Jury Competition, ISES Solar World Congress, Budapest.

1991 Member Jury Architectural Competition, Renewable Energy Research Centre, Seville.

1990- Referee on professorial appointments for Ben-Gurion University of the Negev, Catholic University of Louvain, Bangladesh University of Engineering and Technology, UCLA, University of Nottingham, University of Cambridge, National Technical University of Athens, Aristotle University of Thessaloniki and others.

1988 Member Jury Architectural Competition, Bioclimatic Housing Design in the North of Portugal.

1985- External Examiner on some 50 PhD and MPhil research degrees for University of Cambridge, University of Nottingham, Cardiff University, Cranfield University, Robert Gordon University, Open University, University of Sheffied, University of Westminster and University of Kent in the UK; and for Université Catholique de Louvain, Belgium; National Technical University of Athens and Aristotle University of Thessaloniki in Greece; Universidade da Coruña, Spain; and Deakin University, Australia.

PUBLICATIONS


2011 Adaptive Strategies for an Ecological Architecture. AD Architectural Design John Wiley & Sons
2010 La Formation a la Conception Durable au Royaume Uni. Le Carre Bleu, no.3-4.
2006 Sustainable Design in Architecture. Pos. Faculty of Architecture & Urbanism, University of Sao Paulo.
2005  (with A. Chatzidimitriou and N. Chryssomallidou) Microclimatic Modifications of an Urban Street
2003 (with F. Heidt and others) IDEA Software. Proc. PLEA 2003 Conference, Santiago de Chile.
2002 How do I know if it is what they say it is? (in Greek) Journal of Architects, Thessaloniki, Issue 6.
**Built Examples.** Architectural Association Publications, London on behalf of UK Department of Trade & Industry.

1994  

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1993  
"What you say, What it is, What they get: semantic, methodological and epistemic issues in the continuing discourse on architecture and environment." ISES World Congress, Budapest.

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"La scienza in un approccio regionale all'architettura." In Los, S. (Ed) *Regionalismo dell'Architettura.* Franco Muzzio & c. editore s.p.a., Padova.

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*Bioclimatic Design* (In Greek Βιοκλιματικός Σχεδιασμός. Αρχιτεκτονική και Ηπιες Μορφες Ενεργειας). Issue 5-6, Journal of Institute of Greek Architects, Athens (65 pages).

1981  

1981  
PAULA CADIMA DiplArch AA PhD
paula.cadima@aaschool.ac.uk

Paula Cadima is Co-director of MSc + MArch Sustainable & Environmental Design Programme at the AA Graduate School. She has been in architectural practice and environmental research for more than twenty five years and has taught at the AA Graduate School and at the Faculty of Architecture’s Diploma courses, Technical University of Lisbon, where she also created and directed the post-graduate Master’s Course on Bioclimatic Architecture. She has worked for the European Commission in Brussels for five years, where she was involved in the management of projects promoting energy efficiency, renewable energy sources and world-class research in emerging fields. She chaired the Environment & Sustainable Architecture working group of the Architect’s Council of Europe in 2009 and is the president of PLEA since 2011.

EDUCATION
1979-85 Diploma in Architecture, Faculty of Architecture, Technical University of Lisbon (UTL), Portugal
1993-94 Environment & Energy Studies Programme, AA Graduate School, Portugal
1994-00 PhD Environment & Energy Studies, AA Graduate School, UK

PROFESSIONAL QUALIFICATIONS
1985 Certified Professional Training, Stadtplannungsamt Zürich (SPAZ), Switzerland
1987 Registered Architect (OASRS - Portugal)
2008 Registered Qualified Expert for the Energy Certification of Buildings (OASRS)

TEACHING
2014- Co-Director, MSc + MArch Sustainable Environmental Design, AA Graduate School, London
2010- PhD Supervisor, PhD Programme, AA Graduate School, London
2010-13 Course Master MSc and MArch Sustainable Environmental Design, AA Graduate School, London
2002-05 Director, MPhil Bioclimatic Architecture Programme, Faculty of Architecture, UTL, Lisbon
2004-05 Professor, Urban Comfort, Architecture & Territorial Planning, Faculty of Architecture, UTL, Lisbon
2001-05 Regent Professor, Environmental Design, Architecture, Faculty of Architecture, UTL, Lisbon
1994-98 Course Tutor & Research Assistant, MA Environment & Energy Studies, AA Graduate School, London

OTHER ACADEMIC ACTIVITIES
2015 External Examiner, PhD School of the Built Environment, University of Nottingham, Nottingham, UK
2015 External Examiner, PhD Architectural Sciences, Faculty of Design Sciences, University of Antwerp, Belgium
2015 External Examiner, PhD Environmental Engineering, University of Brighton, UK
2014-16 External Examiner for Academic Promotions, École Polytechnique Fédérale de Lausanne, Switzerland
2014-15 Referee on academic appointments, Faculty of Architecture, Engineering and Urbanism, Université Catholique de Louvain, Belgium
2014 Examination Panel Jury, PhD Sustainable Energy Systems MIT Portugal Programme, Faculty of Engineering, University of Porto, Portugal
2013 Research Assessor, Bilateral Cooperation Programme, Development of International Networking and Cooperation, Cyprus-Romania, Research Promotion Foundation,
2013 External Examiner, PhD Engineering Sciences, Faculty of Architecture, Engineering and
Urbanism, Université Catholique de Louvain, Belgium  
2012 Internal Observer, Re-Validation Committee, Housing & Urbanism Graduate Programme, AA  
2012 Internal Observer, Re-Validation Committee, Histories & Critical Thinking Graduate Programme, AA  
2011 Internal Observer, Validation Committee, DiplHE in Spatial Design Graduate Programme, AA  
2010- Internal Examiner, AA PhD Programme  
2010- Panel Chair, PhD Examination, AA PhD Programme  
2010 External Examiner, PhD, School of the Built Environment, University of Nottingham, Nottingham, UK  
2009-10 Internal Examiner, PhD in Technology, Faculty of Architecture, Technical University of Lisbon, Portugal  
2007 External Examiner, PhD, School of the Built Environment, University of Nottingham, Nottingham, UK  
2004 External Examiner, PhD Faculty of Science and Technology, University Nova of Lisbon, Portugal  
2004 External Examiner, PhD in Geography & Spatial Planning, University of Lisbon, Portugal  

PROFESSIONAL PRACTICE  
2003-05 UrbanDynamics - Co-Founder+Director. Projects included the rehabilitation of a mixed-used 18th century building, Lisbon, and the refurbishment of a country palace, Évora, with passive cooling design strategies.  
1986-88 ASSO (Arquitectos Associados)/ PAL (Planeamento e Arquitectura), Lisbon. Design of various urban and architectural projects, Hotel Centromar and Caixa Geral dos Depósitos in Funchal, NATO Lajes airbase and aparthotel in Porto Santo (refurbishment of the old concrete factory), Cultural Centre of Gafanha in Aveiro, Town Hall of Ilhavo with passive solar design strategies and Masterplan for the seafront development of Madeira Island.  
1984-85 SPAZ (Stadtplannungsamt Zürich), City Planning Department of Zurich. Urban projects, including the design of the Langstrasse Unterführung urban art work, cycling & pedestrian routes and urban structures.  

From 1985 until 2003 she also practiced in private on the design of various projects in Portugal, including urban allotment masterplans, new design and refurbishment of residential buildings, a kindergarten and the design of a catamaran, and collaborated with artists in various projects, among others the urban art work “Shadow Project – Staging the City” commissioned by the Metropolitan Underground of Lisbon with artist Fernanda Fragateiro, and was awarded 2nd Prize at the shop window design competition in 1985 promoted by the Town Hall of Lisbon with artist Miguel Branco and designer Filipe Alarcão.  

ENVIRONMENTAL CONSULTANCY  
2002 International Competition for the Elderly Centre, Oeiras, Portugal - UTOPOS, International Competition for the Elderly Centre, Portela de Carnaxide, Portugal - Architect Mª Manuel Godinho  
2001 International Competition for the School of Technology and Management, Polytechnic Institute in Beja, Portugal - ACE-Engineers.
2000 International Competition for the Art Crafts and Health Schools of the Polytechnic in Castelo Branco, Portugal - Architects Jorge Estriga and Rita Amado.

EUROPEAN PROJECT MANAGEMENT & COORDINATION OF EVALUATION PANELS


OTHER PROFESSIONAL ACTIVITIES

2016 Member of International and Scientific Committees, 32nd International PLEA Conference, Cities, Buildings, People: Towards Regenerative Environments, Los Angeles, USA.
2016 Jury Member, Liget Budapest International Architectural Design Competitions for the Museum of Ethnology in the City Park of Budapest, Hungary.
2016 Member of the Scientific Committee, Sustainable Built Environment Conference SBE16, ETH, Zurich, Switzerland.
2014-15 Jury Member, Liget Budapest International Architectural Design Competitions for 5 new museum buildings in the City Park of Budapest, Hungary.
2011-16 President, PLEA (Sustainable Architecture & Urban Design) International Network
2014 Member of Advisory and Scientific Committees, 30th International PLEA Conference, Sustainable Habitats for Developing Societies, Ahmedabad, India.
2010-14 Technical Expert, European Commission, EACI (Eco-Innovation/ Build-Up Skills), DG ENER (Smart Cities) and DG Research & Environment (Collaborative Projects - Energy Efficient Buildings), Brussels, Belgium.
2009 Chair, Environment & Sustainable Architecture working group, Architect's Council of Europe (ACE), Brussels, Belgium.
2005-10 Member, Directors Board, PLEA (Passive Low Energy Architecture and Sustainable Urban Design)
2004-11 Member, Directors Board, Association Francisco d'Ollanda – Projects & Research, FAUTL, Lisbon, Portugal
2004-05 Technical Expert, European Commission, DG Research (Energy and Environment), DG Education & Culture (Erasmus Mundus) and DG TREN (Intelligent Energy-Europe), Brussels, Belgium
2004 Member, Technical Committee, International Conference HB 2006 Healthy Buildings: Creating a Healthy Indoor Environment for People, Lisbon 4-8 June 2006, IDMEC, University of Oporto, Portugal.
2003-05 Member, Directors Board, “Environment Nucleus”, Order of Portuguese Architects, Lisbon, Portugal.
2001 Member, Solar Passive Buildings Group, FORUM Project – Renewable Energies in Portugal, Ministry of Economy, National Institute for Engineering & Industrial Technology (INETI), Agency for Energy (AGEEN) and DG for Energy (DGE), Lisbon, Portugal.

RESEARCH

2010-12 Environmental Design in University Curricula and Architectural Training in Europe (EDUCATE). Collaborative project sponsored by European Commission Intelligent Energy Europe (IEE)
Programme

2009  Sustainable Construction – a common language for the construction sector, joint project between the Architects’s Council of Europe and the European Concrete Platform

2005-08  Climate and Urban Sustainability: comfort perception and climatic risks (URBKLIM), funded by Fundação Ciência e Tecnologia (FCT)

2004  Integrating Environmentally Responsive Elements in Buildings, Annex 44, IEA-ECBCS

1999-00  Passive Cooling Handbook, European Commission Altener Programme

1994-00  Transitional Spaces, funded by Fundação Ciência e Tecnologia and Fundação Calouste Gulbenkian

1994-95  Passive Cooling of Buildings, European Commission DG-XII Joule II R&D Project

1994  Design of Educational Buildings. Architecture Climate Portfolios, EC DG-XII Solinfo

PARTIAL LIST OF PUBLICATIONS


2012  Education for Sustainable Environmental Design – The EDUCATE Project, Summary of Results (with EDUCATE Partners). Edited by S. Altomonte, EDUCATE Press, University of Nottingham.


2011  No Futuro os Edifícios Serão Grandes Fornecedores de Energia, Jornal PÚBLICO Comunicação Social SA, Dia da Terra, 22 April, Lisbon.


2006  Retrofitting of Social Housing: 12 innovative projects for an energy-intelligent Europe”, IEEA,
European Commission (co-edited with V. Berrutto and G. Sutherland).


2005 Aplicações de Água no Controlo do Microclima dos Espaços Urbanos", Cadernos da Faculdade de Arquitectura, Nº 4, FA-UTL, Lisbon.

2004 Os Espaços de Transição como Elementos Representativos da Relação com o Meio Ambiente. Chapter in Falas da Terra Natureza e Ambiente na Tradição Popular Portuguesa Edições Colibri e IELT, FCSH, UN Lisbon.


AWARDS

1998 Best PLEA Poster Award, PLEA 1998 International Conference.
1998-99 Specialization Grant, Fine Arts Department, Calouste Gulbenkian Foundation.
1987 2nd Prize for an Urban Kiosk Prototype (with Architect JF Landerset Cadima), Public Design Competition, promoted by the Municipality of Lagos, Portugal.
1985 2nd Prize Window Display Design Competition (with Artist M. Branco and Designer F. Alarcão), Open Competition promoted by the Municipality of Lisbon, Portugal.
1984-85 Professional Traineeship Abroad, IAESTE (International Association for Exchange of Students for Technical Experience).

MEMBERSHIPS

AA - Architectural Association, United Kingdom
OA - Order of Architects, Portugal
PLEA - Sustainable Architecture & Urban Design, International Network
UIA-ARES - International Union of Architects, Architecture and Renewable Energy Sources
ICOM - International Council of Museums
JORGE RODRÍGUEZ ÁLVAREZ DipArch MA MSc (AA) PhD

Jorge Rodríguez Álvarez studied architecture and urbanism at ETSAC, holds a Master in Building Conservation & Urban Regeneration at USC and was awarded a distinction in the MSc in Sustainable Environmental Design at the Architectural Association. He won the doctoral extraordinary prize for his thesis on the energy performance of cities, which he developed at the UDC, with a research stay at UCLBartlett. As an architect, he has worked extensively at almost every scale, from furniture design to the city level. In 2008 he co-founded SAAI, a laboratory of environmental design and specialized consultancy with ongoing projects in Europe, Asia and America, such as the concept design for the development of brownfield sites in Dachong and Sihui, (China), an environmental code for a residential development in Leon (Mexico) or the adaptation of BREEAM for Communities to Spain. He was recently granted an RIBA Research Award to undertake a study on sustainable housing design.

EDUCATION
2006-2007 MA in Building Conservation and Urban Regeneration, Universidade de Santiago de Compostela
2007-2008 MSc in Sustainable Environmental Design (Distinction), Environment & Energy Studies Programme, AA Graduate School
2009-2013 PhD (Sobresaliente Cum Laude) Universidade da Coruña, Spain. International Mention and Extraordinary Prize

TEACHING
2008- Master Programmes Environment & Energy Studies and Sustainable Environmental Design, AA Graduate School
2009- Urban Planning and Design courses at UDC, Spain

PROFESSIONAL PRACTICE
2002-2006 Project designer in Glez-Cebrian Architecture and Urbanism, Spain
2003- Registered Architect in Spain
2006-07 Researcher and Project manager in AA Santiago, projects in Spain and Brazil
2007-08 Building conservation consultant for Galician Government, Department of Housing
2008-11 Cultural Centre in Pontevedra, competition- 1st prize - and construction
2009- Founding partner SAAI. Sustainable Architecture consultants
2010-12 BREEAM Communities adaptation to Spain (BREEAM ES)
2011-12 Mixed use development in Sihui and Dachong, China (SAAI design)
2013 GDA Award (Cultural Center in Pontevedra)

ARTICLES AND PUBLICATIONS
Urbanística: Experiencias, retos e instrumentos. Departamento de Proyectos Arquitectónicos y Urbanismo. Universidade da Coruña


KLAUS BODE  BSc(Hons) HonFRIBA

Klaus Bode studied building engineering at the University of Bath and was project engineer on Foster & Partners’ Commerzbank in Frankfurt and on Rogers’ and Piano’s Potsdamer Platz projects in Berlin. He co-founded BDSP Partnership, an environmental engineering practice with offices in London, Belgrade and Sao Paulo, and has collaborated with the Rogers Partnership on the Welsh Assembly Building in Cardiff, with Grafton Architects on the Bocconi University in Milan and with the sculptor Antony Gormley on his Blind Light exhibition among other projects.

EDUCATION
University of Bath, Building Engineering

TEACHING
2002-  AA Environment & Energy Studies Programme
Frequent invited speaker at seminars in Europe, USA and South America.

PROFESSIONAL PRACTICE


1987-89  J Roger Preston and Partners Mechanical & Electrical services co-ordination responsibilities for UK commercial projects.

1989-93  Project Engineer responsible for management of projects in UK and Germany including new Headquarters for Commerzbank Frankfurt (Foster & Partners) and Potsdamer Platz development in Berlin (Richard Rogers Partnership & Renzo Piano Building Workshop). Manager for firm’s German activities.

1993-95  Group Manager Roger Preston & Partners and Joint Managing Director RP & K Sozietät. Responsibilities included supervising the firm’s German operations and promoting the development within Europe.

1995-  Founding Partner BDSP Partnership. Responsible for projects including SBS Broadcasting Center in Seoul and Broadwick House in London (Richard Rogers Partnership); Faith Zone, Millennium Dome (Eva Jiricna), Sanitas/BUPA HQ in Madrid (Ortiz Leon Arquitectos) and jointly in charge of a two year R & D project on the subject of achieving zero emission urban developments – APAS, Project ZED (Future Systems).

2000-  Director BDSP Partnership Limited. Recent projects include the National Assembly for Wales, Cardiff, Mossbourne Community Academy in London, Nueva Plaza del Toros las Arenas and Nuevo Centro de Negocios en Viladecans all in Barcelona (Richard Rogers Partnership), Columbia University Masterplan, New York (Renzo Piano Building Workshop) and Bocconi University, Milan and Toulouse School of Economics, Toulouse (Grafton Architects), LSE Student Centre (O’Donnall & Tuomey), One Airport Square, Accra, Ghana (Mario Cucinella Architects), Oscar Freire Development, Sao Paulo (Foster & Partners), London Olympics 2012 Velodrome (Hopkins Architects Limited); Blind Light, London, New York and Kiew (Antony Gormley). Considerable involvement in competition entries and masterplanning.

PUBLICATIONS
GUSTAVO BRUNELLI MA AA (Dist) FRSA

Gustavo Brunelli graduated from the Federal University of São Paulo and completed the MA in Environment & Energy Studies at the AA in 2004 with Distinction. He has worked with ChapmanBDSP on projects in the UK and abroad, including leading the environmental team on the Velodrome for the London 2012 Olympic Games, and is currently associate director with hurleypalmerflatt engineering consultants.

EDUCATION

2003-2004  Architectural Association Graduate School, London, UK
MA (Distinction) in Environment & Energy Studies. Partially funded by a scholarship from the ALBAN Programme.

aug/2003  21ème Les Ateliers Internationaux de Cergy-Pontoise, France
International workshop in urban design with focus on proposals for the Seine-Marne confluence in Paris.

1998-2002  Faculty of Architecture and Urbanism, University of São Paulo, Brazil
Degree: Architect and Urban Planner

TRAINING

sep/2013  BREEAM Accredited Professional
Training and Examination

mar/2012  BREEAM New Construction 2011
Assessor training

aug/2007  Royal Designers for Industry (RDI) Summer School
Multidisciplinary workshop covering all facets of design.

TEACHING

2007-  Sustainable Environmental Design Programme,
Architectural Association Graduate School, London, UK
Visiting lecturer and subsequently tutor (from 2009) AND Studio Master on the MSc/MArch Programme, responsible for the Tools & Techniques course.

2010-2011  Architectural Technology Research Studio,
KTH Royal Institute of Technology, Stockholm, Sweden
Visiting lecturer in the Architecture Diploma Course, providing support for multidisciplinary integration into the students’ diploma projects.

dec/2004  Environmental Software Seminar, University of São Paulo, Brazil.
Series of lectures on the use of Ecotect and Radiance to assess daylight performance of buildings for the staff of the Laboratory of Comfort and Energy Efficiency.

PROFESSIONAL PRACTICE

since 2014  hurleypalmerflatt, London, UK
Associate Director – Building Optimisation
Leading the Advanced Building optimisation service line I am responsible for providing holistic design advice and coordinating the multidisciplinary approach to the company’s wide range of projects. I am an integral part of the project team from inception to delivery and coordinate a team of consultants in the delivery of a range of analysis to support the design, as well as being the main point of contact for client and wider design team. As a director, I
participate in the company management and in the preparation and implementation of the company business plan. I am responsible for projects commercial and management aspects, including resourcing and accounting. Key projects include:

- 70-73 Piccadilly, London, UK
- Project Orange, London, UK
- Folgate Court, London, UK
- Confidential Office Tower in the City of London, UK
- Al-Faisalia Redevelopment, Riyadh, Saudi Arabia

2005-2014 BDSP Partnership (currently ChapmanBDSP), London, UK
**Associate Environmental Consultant**

Responsible for the coordination of a team of environmental consultants in the delivery of environmental design and energy advice and assessment for developments of various built scales in the UK and abroad. I have led the team in the completion of successful projects as well as several international competitions. Liaising directly with clients and architects, I have been able to integrate sustainable strategies within the projects’ specific constraints and to the satisfaction of clients and designers. Key projects include:

- London 2012 Olympic Velodrome and Velopark, London, UK
- Sporting d'Hiver, Montecarlo, Monaco
- Universite de Toulouse le Mirail, Toulouse, France
- LSE Saw Swee Hock Student Centre, London, UK
- One Portal Way Redevelopment, London, UK
- Toulouse School of Economics, Toulouse, France
- Two Rivers Masterplan and Retail Mall, Nairobi, Kenya
- BRITAM Tower, Nairobi, Kenya
- National Assembly for Wales, Cardiff, UK
- Helsingborg Masterplan, Helsingborg, Sweden

2005 Laboratory of Comfort and Energy Efficiency (LABAUT), University of São Paulo, Brazil

Environmental consultant involved in several projects, including the new 100,000m2 Research Centre for Petrobras, the Itaipava Shopping Mall and the Vera Cruz School refurbishment. Responsible for design advice and environmental strategies analysis and modeling. Also involved in a research on coastal urban ventilation analysis through wind tunnel testing.

2003 Roberto Loeb Architects, São Paulo, Brazil

Junior architect working on the proposal for urban renovation of the Consolação Street area in São Paulo, Brazil.

2002 Graduate School of Architecture and Urbanism, University of São Paulo, Brazil

Trainee architect for the restoration works of the school’s art-nouveau building.
HERMAN CALLEJA BArch (Hons) MArch

QUALIFICATIONS
UK Architects Registration Board - Registration number 086699G 2016
Architectural Association School of Architecture, London 2010 - 2012
MArch Sustainable Environmental Design [SED] with Distinction
Malta [EU] Architect and Civil Engineer [ACE] License – License number 639 2008
University of Malta 2001 - 2006
Bachelor of Architecture & Civil Engineering with Honours [Major in Architecture]

PROFESSIONAL EXPERIENCE
Chapman BDSP – Senior Environmental Analyst Jan 2015 –
Leading the Environmental Design consultancy on a number of projects in Westminster, Camden, Kensington and Tower Hamlets. Assisting during Concept Design to Developed Design on a number of projects. Selected works:
- Whiteleys, Foster + Partners | Leading the Environmental Design consultancy on a prestigious project comprising residential and non-residential assets from Concept Design; guiding the design team in order to deliver a site-sensitive solution that preserves the character of the building while meeting the targeted high-level environmental performance including 58% CO₂ reduction and targeting BREEAM Excellent.
- LSE CBR, Rogers Stirk Harbour + Partners | Parametric optimisation of façade shading devices.
- Dubai Observation Tower, Santiago Calatrava A&E | Concept Design and thermal comfort studies.
- New City Court Tower, AHMM | Concept Design and façade optimisation

BDSP/Chapman BDSP - Environmental Analyst Sep 2012 – Dec 2014
Design consultancy and analysis through, irradiation mapping, daylight analysis, dynamic thermal simulation and parametric design. Selected works:
- Institut Mines-Télécom [1st Prize], Grafton Architects | Concept Design – Technical Design
- Nahel Palace, Zaha Hadid | Thermal modelling and Daylighting studies
- Rio Branco, Triptyque | Thermal modelling and Daylighting studies
- Busan Opera House [Competition], Foster + Partners | Competition stage assistance
- LSE [Competition], Hopkins Architects | Competition stage assistance

Architecture Project [AP], Valletta, Malta. Aug 2007 – Sep 2010
Design team architect on a variety of projects including;
- The development of a major regeneration project along a historic harbour in Malta. My work included the regeneration of a regatta house, a permanent pavilion and a pedestrian bridge; contributed during all phases of the project; concept stage, presentation, detailing, tender documents and working drawings.
- Design, detailing and construction drawings of a three-storey retail outlet.
- Lead architect of a glazed roof cover over an 18th century palazzo courtyard.
- Lead architect of a mixed-use scheme comprising residential and retail activities.
- Concept development of a new seaside village and co-author of the sustainability report.
- Coordinator of an EU funds-winning application for a water treatment pilot project/exhibition in collaboration with the Malta Water Services Corporation and the University of Malta.

Main architect for the concept development of two complexes including hotels, residential, leisure and commercial activities.

Emilio Albarracin Rapallo, Seville, Spain Sep 2006 - Nov 2006
Internship. Participated in the concept development of two residential projects in Catalonia.
Undertook the superimposition of a road layout over a surveyed terrain in Bentley MXRoads generating semi-automated road curves with transverse and longitudinal sections.

Joseph Bonello, Marsascala, Malta. Nov 2003 - Jan 2005

Concept development of a pedestrian bridge over National Road 8 with an engineer. The design was selected for construction by the regional council.

TEACHING EXPERIENCE
Architectural Association [AA], London, UK. SED MArch/MSc course tutor Sep 2013 -
University of Malta visiting lecturer Oct 2012 -
Tutor assistant Sep 2011 – Jan 2012

Providing environmental analysis workshops, tutorials and studio support assistance including tools as EDSL TAS, Honeybee, Ladybug, Grasshopper, Ecotect Analysis, Radiance, WinAir, Flow Design, Meteonorm and RayMan.

RESEARCH/PUBLICATIONS
LabGrade 2016, Milan Mar 2016
Tutor co-leading a group of Architectural Association students in an academic design competition workshop. 1st Prize.

Smart Geometry 2013, London Apr 2013
Parametric Design Workshop; Tutors Daniel Piker [F+P] and Daniel Bosia [AKT]
Adaptive Structural Skins design research workshop

The design and analysis of a hub for the digital creative industry in Malta making use of different passive cooling strategies by means of shading, thermal mass, nocturnal ventilation, ground cooling and roof ponds. Project awarded Distinction. Presented and published at the NCEUB People and Buildings 2012 Conference.

Algorithmic Landscapes Grasshopper Workshop Oct 2011
EcoLogic Studio; Tutors Marco Poletto, Claudia Pasquero and Andrea Bugli.

Fitzrovia Urban Living [AA MArch SED Term 2 mixed-use design project in a group of 4] Apr 2011

Robin Hood Gardens [AA MArch SED Term 1 Building analysis project in a group of 4] Jan 2011
Exhibited at UIA 2011 Tokyo and PLEA 2011 Louvain La Neuve.

Smart Geometry 2009, San Francisco Mar 2009
Parametric Design Workshop; Tutors Martha Tsigkari [F + P] and Matthew Clark [Arup]. One of the ten conference participants that was selected for a 1-day Master Class collaboration. Exhibited at the 2009 AIA convention in San Francisco.

University College Dublin, PLEA paper Oct 2008
Co-author and presenter of a paper on the lighting and thermal performance of contemporary shading devices in Malta. The research also included the development of an Excel tool that calculates the heat gain through an opening while plotting the cast shadow patterns.

Smart Geometry 2008, Munich Feb 2008
Parametric Design Workshop; Tutors Achim Menges [AA] and Jenny Sabin [UPenn]
AWARDS

STEPS EU Strategic Educational Pathways Scholarship award  
MGSS Malta Government Scholarship Scheme award  
Smart Geometry 2009 - One of ten projects selected for Master Class  
Building a European Identity, EU Art Competition

Sep 2010  
Sep 2010  
Feb 2009  
Mar 2006

ORGANISATIONAL EXPERIENCE

IAESTE Public Relations Officer, University of Malta.  
PRO during the annual international general conference, participating in local media, publishing articles and assisting students during spring and summer 2006.

SDC Marsascala, Malta.  
Youth formation assistance among adolescents and young teenagers.

Jun 1999 - Oct 2004

VOLUNTARY WORK

Pope Visit in Malta 2010, Youth Celebration Stage Design, Valletta, Malta.  
Author of the selected concept and part of the design development team.

AEGEE ‘Together We Can’ Cartoon, Condojanni, Italy.  
Leader of a short cartoon project with an international youth group in collaboration with Italian cartoonist Angelo Riccobene.

Mar 2007

LANGUAGES SKILLS;


COMPUTER SKILLS;


OTHER SKILLS;

Freehand Sketching, Rendering, Photography and Model making.
MARIAM KAPSALI  DipArchEng MSc

Mariam Kapsali graduated with Distinction from the Faculty of Architecture and Urbanism at the National Technical University of Athens and won an IKY scholarship to the MSc in Sustainable Environmental Design at the AA which she completed with Distinction. She has been a member of the SED teaching staff since 2012 and is an architect at Architype Architects. Mariam was a member of the Oxford Institute for Sustainable Development and a Research Fellow on Building Performance Evaluation at the Low Carbon Building Group at the School of Architecture Oxford Brookes University. Prior to joining the Architectural Association Mariam worked as an architect in Athens.

EDUCATION

2012   MSc Sustainable Environmental Design, Architectural Association School of Architecture, London, UK
2011   Diploma in Architectural Engineering, School of Architecture, National Technical University of Athens, Greece

WORK EXPERIENCE

2016 - present   Architect at Architype Architects, London, UK
2012 – present   Course tutor at the MSc/MArch Sustainable Environmental Design Architectural Association School of Architecture, London, UK
2010 Architect at Anastopoulos Architects, Athens, Greece
2007 Research Assistant in Urban Planning, School of Architecture, Department of Planning, National Technical University of Athens

PUBLICATIONS

Special Issue


PRIZES & AWARDS

2011 AA Bursary for Graduate Studies at the Architectural Association School of Architecture
2011 IKY (State Scholarship Foundation) Scholarship
2011 Lilian Voudouri Scholarship
2011 NTUA Award and Medal for achieving the 2nd highest diploma grade at the NTUA School of Architecture
2009 IKY/EU Scholarship for the Erasmus Socrates student exchange program
2007 Lyssandros Kaftantoglou NTUA Award
2005 Xristos Papakuriakopoulos NTUA Award for distinction in Mathematics
2005 Nicolaos Kritikos NTUA Award for distinction in Mathematics
2004 IKY Scholarship and Award for entering 2nd in nationwide ranking at the NTUA School of Architecture
2004 Arsakeio Award for graduating from Arsakeio College with the highest mark of the year
BYRON MARDAS DiplArchEng MSc

Byron Mardas studied architecture and urbanism at the National Technical University of Athens and worked as an architect in Athens before taking the MSc in Sustainable Environmental Design at the AA. He works at Foster + Partners as an environmental designer focusing on daylight optimization, outdoor comfort and parametric modelling. He is a member of the SED teaching staff since 2013 as a part-time software tutor.

EDUCATION

2013  MSc Sustainable Environmental Design  
       Architectural Association School of Architecture, London, UK  
2012  Diploma in Architectural Engineering  
       Five-year professional degree, RIBA Part II equivalent  
       School of Architecture, National Technical University of Athens, Greece

TEACHING

2013-  Course tutor, MSc/MArch Sustainable Environmental Design, AA School of Architecture, London

PROFESSIONAL EXPERIENCE

2013-  Environmental Design Assistant at Foster + Partners, London  
2008-11  External collaboration with M.S.KAT civil works, Athens  
2008   Detailed Survey for refurbishment of residential building in Plaka, Athens for Karadimas Architects

PUBLICATIONS & TECHNICAL REPORTS

2013  *Refurbishing the City Centre of Athens*. MSc Dissertation in Sustainable Environmental Design AA School of Architecture, London.
Visiting Lecturers

NICK BAKER BSc PhD

Nick Baker is a physicist who has spent the majority of his professional life as a researcher, consultant and teacher of building science and environmental design. His particular interests lie in energy modelling, thermal comfort and daylighting. He is the author of the LT Method, an energy design tool, and has written and contributed to several books including Daylighting Design. His Handbook of Sustainable Refurbishment was published by Earthscan in 2009.

JOANA CARLA SOARES GONÇALVES DiplArch MA PhD

Joana Carla Soares Gonçalves is an architect and urbanist from Rio de Janeiro where she practised with Ana Maria Niemeyer before taking the MA in Environment and Energy Studies at the AA and a PhD on the sustainability of tall buildings at the University of São Paulo, where she has taught since 1998. She has worked as an environmental consultant on projects around Brazil and won awards in a number of design competitions. Her book The Environmental Performance of Tall Buildings was published by Earthscan in June 2010.
13  EXTERNAL LINKS

The programme has established contacts with fellow teachers, researchers and practising architects and engineers in many countries and has been involved in a variety of collaborative projects. The taught programme draws from this network of contacts. Colleagues who have contributed to the taught programme or collaborated in joint research or consultancy projects include:

Prof. Servando Alvarez & Prof. J.-L. Molina  School of Engineering, University of Seville
Denise & Rab Bennetts  Bennetts Associates Architects
Prof. Michael Bruse  Johannes Gutenberg-University, Mainz, Germany
Prof. Federico Butera & Prof. Gianni Scudo  Politecnico di Milano, Italy
Prof. Joao Cabral  Technical University Lisbon
Peter Chlapowski  PCKO Architects, London
Prof. Oscar Corbella  Faculty of Architecture and Urbanism, Federal University of Rio de Janeiro
Mario Cucinella  MCA, Bologna, Italy
Prof. Claude Demers & Prof. Andre Potvin  Universite Laval, Quebec, Canada
Prof. Andre De Herde, Dr Arnaud Evrard, Dr Sophie Trachte, Dr Magali Bodart  Architecture et Climat, Catholic University of Louvain
Bill Dunster  Bill Dunster Architects, London
Prof. Andy Ford  South Bank University
Prof. Brian Ford  (Emeritus) University of Nottingham
Prof. Bill Gething  University of West England
Dr Margarita Green  Pontificia Universidad Catolica, Chile
Prof. Dean Hawkes  (Emeritus) Welsh School of Architecture
Richard Hawkes  Hawkes Architects
Catherine Harrington  Architype Architects
Dr Alan Harries  Smiths Gore, London
Prof. Andreas Matzarakis  German Weather Service
Prof. Fergus Nicol  Low Energy Architecture Unit, London Met
Becci Taylor  Arup, London
Ben Humphreys  Architype Architects, London
Prof. Gary Hunt  University of Cambridge
Prof. Kazuo Iwamura  Murashi Institute of Technology
Prof. Yuichiro Kodama  University of Kobe
Prof. Isaac Meir, Prof. Evyatar Erell, Prof. David Perlmutter  Centre for Desert Architecture and Urban Planning
Prof. Edward Ng  Chinese University Hong Kong
Prof. Harald Restvik  Bergen School of Architecture, Norway
Prof. Alan Short  University of Cambridge
Dr Derek Taylor  Altechnica & Open University
Alexandros Tombazis  Tombazis & Associates, Athens
AA SED Alumni

Recent SED graduates working in London and UK:

Alexandra Andone  PRP Architects London
Joyce Chan  HOK
Meital Ben Dayan  Architype Architects London
Marina Breves Costa  Millier London
Bruno Chialastri  Heatherwick Studio
Camila Ines Della Bitta  Avanti Architects London
Larissa De Rosso  Building Design Partnership
Danah Dib  Foster & Partners, London
Ruth Dominguez  Foster & Partners
Kimmy El Dash  ZedFactory
Stathis Eleftheriadis  Price & Myer
Joy Anne Fleming Mowbray  PRP Architects, London
Irene Gallou  Partner, Foster + Partners, London
Dominga Garufi  Richard Hawkes Architects London
Ronak Gawawala  HOK London
Alessandra Ghione  BDSP Chapman London
Anastasia Gravani  Wilkinson Eyre Architects London
Pablo Gugel  Atelier Ten, London
Vidhi Gupta  Price & Myers Engineers, London
Javier Guzman Dominguez  Midgard London
Mina Hasman  SOM London
Amy Holtz  PLP Architecture, London
Kristin Hoogenboom  Foster + Partners, London
Shashank Jain  Chapman BDSP, London
Eleni Kaltsogianni  CFW Architects London
Georgia Katsaouni  SPPARC Architects, London
Sooseok Kim  Populous London
Annie Rhiannon Laurie  Foster & Partners
Victor Lopez Rioboo-Gil  Gordon Ingram Associates
Maria Lumbreras  Atkins, Colchester
Ricardo Messano  Foster + Partners, London
Jose Millan  Broadway Malyan
Juan Montoliu  Feilden Clegg Bradley Architects
Mileni Pamfilii  Building Design Partnership BDP London
Pilar Perez del Real  Herriott Watt University
Kartiekeya Rajput  Chapman BDSP London
Jose Ramirez  Bennetts Architects
Rodrigo Rodrigues  Aedas Architects
Andrea Rossi  Chapman BDSP London
Rudrajit Sabhaney  Associate, Foster + Partners, London
Vera Sarioglu Arup London
Amedeo Scofone WSP Environmental London
Danielle Severino Eva Menz London
Milena Stojkovic Associate, Foster + Partners, London.
Harsh Thapar Associate, Foster + Partners, London.
Olga Tsagkalidou Hodkinson Consultancy
Leonidas Tsichritzis University of Kent
Pier Luigi Turco SOM London
Laura Victoria Vasquez Bueso HKR Architects, London
Yiping Zhu Make Architects, London.

Recent SED graduates abroad:

Hiroki Abe ABE Design Group, Portland, Oregon, USA
May Al-Hinai Atkins, Oman
Carole Aspeslagh Aspeslagh & Steyaert Architects, Brussels, Belgium
Laura Apezteguia A+E Pamplona, Spain
Rodolfo Pedro Augspach SDLA Sustainable Design Lab Architecture Brussels, Belgium
Tiffany Broyles Thornton Tomasetti, New York
Aaron Budd Sun Architects Manilla, Philippines
Anne Cherian Matthew Consulting Engineering Office, Abu Dhabi, UAE
Francisco Casablanca Cline Betridge Bernstein Lighting Design, New York
Irech Castrejon Deimel Oelschager Architekten, Berlin
Joao Pinto de Oliveira Cotta Oliveira Cotta Architects Campinas, Brazil
Rania El Zouki American University, Beirut, Lebanon
Robert Fryer Philadelphia University
Rohit Garg Populous, New Delhi
Hina Gazi Imar Urban Consultants, S. Arabia
Piya Gupta Morphogenesis, Delhi, India
Benito Gutierrez Blanco ITESM Campus, Aguascalientes, Mexico
Alexandre Hepner Studio ARKIZ, Sao Paulo
Blake Jackson Tsoi Kobus & Associates Boston, USA
Atishay Jain Hijjas Kasturi Associates, Kuala Lumpur, Malaysia
Aarushi Juneja Morphogenesis, New Delhi, India
Dong Ku Kim Hyundai, Seoul, South Korea
Bilge Kobas Super Eight Collective, Istanbul, Turkey
Varun Kohli HOK & Merge Studio, New York
Aimilios Kourafas Archutopia, Dubai, UAE
Ashwini Kovithila Thazhe Veedu Space Matrix Design Consultancy, Bangalore, India
Amy Leedham Atelier Ten, San Francisco
Eleni Malaktou University of Cyprus, Cyprus
Patricia Martin Del Guayo Shepheard Epstein & Hunter
Humberto Mora Escalar, Bogota, Colombia
Pulane Mpotokwane  Arup, Johannesburg, S Africa  
Swastika Mukherjee Purple Leaf Co., Beijing, China  
Tuan Anh Nguyen  RM Studio Beijing, China  
Barak Pelman Technion Institute of Technology, Israel  
Shravan Pradeep Pradeep Architects, Bangalore, India  
Rawan Qobrosi Clay & Stone, Amman, Jordan  
Omar Rabie Auroville Earth Institute, Auroville, India  
Isha Rathee Populous, Delhi, India  
J.-F. Roger France Greenarch Architects, Brussels, Belgium  
Ricardo Rosa KRIPTON Architects, Lisbon, Portugal  
Izzati Mohamad Salim Malaysian Resources Corporation Berhad Kuala Lumpur  
Tomas Swett Browne & Swett, Santiago, Chile  
Afsaneh Tafazzoli MJM Architects, Toronto, Canada  
Boyoon Zang Korea Institute of Construction Technology, Seoul, Korea
APPENDIX  LIST OF SED DISSERTATION PROJECTS

This Appendix lists the topics of all MA, MSc and MArch Dissertation Projects completed successfully since the Environment & Energy Studies Programme was validated for Masters degrees. MA Dissertations in Environment & Energy Studies (AA EE) are from the ten year period 1995-2005. The MSc and MArch Dissertations in Sustainable Environmental Design (AA SED) start from 2006. These are listed separately for MSc and MArch following a reverse chronological order, starting from the more recent output. The listing includes the 11th cycle of AA SED that started in October 2015 and due for completion in September 2016 for the MSc and January 2017 for the MArch. Printed copies of all AA EE and AA SED Dissertations are kept in the SED Office. The AA Library stores a small selection. A larger selection is available in pdf format on the File Server. MPhil and PhD Dissertations related to the programme's areas of research are listed at the end of the Appendix.

SED 11th Cycle 2015-17

MArch Dissertations to be completed January 2017

Rafael Alonso
Implications of Embodied Carbon in Office Building Design in London

Ma Kristina Alvarez
Design of an Eco-Resort in the Philippines

Elias Anka
Preserving Cultural Heritage: Environmental Retrofit of the Beiruti Rose House

Timothy De Los Santos
Design of Sports Centre in Metro Manila

Angela Dub
Environmentally-Friendly Urban Fabrics- the case of Buenos Aires

Paolo Flores
Design of an Educational Complex in Metro Manila

Romaissa Hadji
Low Energy High-Rise Buildings in Dubai

Varunya Jarunyaroj
Learnings from Vernacular: New Design of Singapore HDB Flat

Zahraa Makke
Design of village for children of war: orphanage, school and health center

John Salama
Pavilion Design in Cairo

Shruti Shiva
Social housing in Mumbai: learning from the chawl

Wan Fong Wu
Renewable Energy Networks in Leftover Spaces in London

MSc Dissertations to be completed September 2016

Angeliki Antoniou
Redefining the Balcony on Residential Buildings in Thessaloniki, Greece
Zina Berrada  
Design Guidelines for Villages in the Warm and Semi-Arid Regions of Morocco

Drin Chulakasyena  
Design Guidelines for High Rise Housing in Bangkok

Florence Collo  
Solar Urbanism and Building Design in Buenos Aires, Argentina

Ipsita Dash  
Low-Cost Housing in Coastal Odisha, India

Olivier Dambron  
Potential of Bamboo Construction, Bali, Indonesia

Ana Dias  
Design Guidelines for High-Rise Office Buildings in Rio de Janeiro, Brasil

Ece Durmaz  
Daylight and Thermal Performance of Office Buildings in Ankara, Turkey

Paknam Eid  
Passive Design for Office Buildings in the Middle East

Aksor Gurunlian  
Passive Building Envelopes for Buildings in Lebanon

Müge Inan  
Adaptation of Historical Buildings into Working Environments in Istanbul

Anusha Nanavati  
Design Guidelines for Schools in Tropical Climates, Mumbai

Xiaxi Qiu  
Case Studies of Residential Buildings in Warm-Humid Climate, Singapore

Thajnu Rashid  
Retrofitting of Office Buildings in London

Eashita Saxena  
Passive Strategies for Office Buildings in London

Maya Sharif  
Reconstructing Camps in Beirut, Lebanon

Malgorzata Anna Tomczuk  
Exhibition Pavilions in London

Trishta B Vardhan  
Window Design Strategies for Work Environments in Mumbai, India

Elena Vilches  
Learning from the Traditional Architectural Features of Cadiz, Spain

Chunni Zhou  
Moisture Control for Housing in Lingnan Region, Guangzhou, China
SED 10th Cycle 2014-16

MArch Dissertations completed February 2016

Antonio Almeida
Integration of Industrial Remains at Sea Side Village of Trafaria, Portugal

Sandheep Ellangovan
Performative Stand for Outdoor Urban Markets

Oindrila Ghosh (Commended for Dissertation)
Revitalising the Informal City in Kolkata, India

Irene Giglio
Retrofitting Project for the Corviale, Rome, Italy

Nimya Mariam
High-Density Urban Living in Warm-Humid Climates, Cochin, India

Wasinee Prasongsunmit (Commended for Dissertation)
Shop-house Prototypes, Bangkok, Thailand

Cindrella Semaan
Integrating Vernacular Strategies into Contemporary Designs in Lebanon

Monica Toledo
Shopping Outdoor Spaces, Santiago, Chile

Julia Torrubia Aznárez
Perceived Environments in Offices, Madrid, Spain

Ameer Mustafa Varzgani
Ephemeral Art Pavilion, London, UK

Jiaji Yang (Commended for Dissertation)
Urban Village Design for Communal Living, Guangzhou, China

Daniel Zepeda
Free-Running Office Building, Guadalajara, Mexico

MSc Dissertations completed September 2015

Ireh Castrejon
Design Strategies for Sustainable New Housing Projects In The Toluca Valley

Jet De La Rosa (Commended for Dissertation)
Comfort In The City: The Potential of Cooling Outdoor Urban Spaces in Metro Manila

Mª Francisca Echeverri
Environmental Potential of Flat Roofs in The Urban Context of Bogotá. Refurbishing The Informal City.

Sheila Esteve Ganau
New Urban Strategies for the City of Valencia: A Bioclimatic Rethink for the Historical City

Lu Jing
The Design of Glazed Balcony for Residential Buildings in Zhengzhou, China

Aarushi Juneja
Potential of Courtyards in Educational Buildings of New Delhi: Exploring Outdoor Learning Spaces for Primary School Students

Michelle Kuei
Shading the Outdoor Markets for Tapei City

Jennifer Liao
Balconies as Outdoor Living Spaces in High-Rise Buildings in Sao Paulo.

Aly Mahmoud
Strategies for Affordable Housing in Cairo

Chad Mckee (Commended for Dissertation)
Adaptive Bay Window Design Strategies for High-Rise Residential Buildings in Hong Kong

Mariana Moniz
Guidelines Towards Retrofitting an 18th Century “Solar” into a Rural Hotel in the North of Portugal

Mattis Mussault
The potential use of natural ventilation in office buildings in Tokyo

Arturo Reyes
Narrow stepped canyons in Mexico City. Improving outdoor comfort and water cycles.

Maria Teresa Sanchez
Lessons from Domestic Vernacular Buildings

Victoria Soto Magan
Daylighting Design for Non-Visual Effects in Research Environments

Augusta Stanitsa (with Distinction)
Environmental Retrofit of the Unexploited Roofscape of Athens

Olga Tsagkalidou (with Distinction)
Environmental Retrofit of the Unexploited Roofscape of Thessaloniki

Tolga Uzunhasanoglu
Environmentally Responsive and Inhabitant Centered State Secondary Schools in Istanbul, Turkey

April Wang
A Porosity Paradigm: Reconfiguration of Shophouse Morphology in Kaohsiung City.

SED 9th Cycle 2013-15

MArch Dissertations completed February 2015

Han Chen (with Distinction)
Design for High Density Residential Community

Adriana Comi
Social Housing in Mexico City

Kimmy El-Dash
Designing Out Fuel Poverty

Mahmoud Ezzeldin
The Future of Library Design
Francisco Godoy  (Commended for Dissertation)
Eco Tourism in Chile

Anahí González
Primary Educational Spaces

Madhulika Kumar
School for Dance and Music

Ayelet Lanel
Educational Spaces - Learning from Nature

Rhiannon Laurie  (Commended for Dissertation)
Future Library and Co-working Design

Gabriela Nuñez-Melgar
Temporary Shelter for the Homeless

Artem Polomanny
Resilient Commercial Environments

Hyosik Pyo
Design of Tall Residential Building in Daegu, S Korea

Jorge Ramirez
Local Identity for Rural Social Housing

Andrea Rossi
School & Community Centre in Lampedusa Island

Praew Sirichanchuen (Commended for Dissertation)
“Co-Production” of Low-Income Community in Bangkok

Ganesh Sivakumar
Affordable Housing Design

Pierluigi Turco
Migrant Centre in Lampedusa Island

Mariyam Zakiah
Self-Build Houses in the Mountains

MSc Dissertations completed September 2014

Georgina Campbell (Commended for Dissertation)
Reconstructing Township Primary Schools

Larissa C De Rosso
Outdoor Comfort in Small Open Spaces in São Paulo

Neusa Fernandes
Refurbishment of Porto’s Historic Centre

Maria Lumbreras (Commended for Dissertation)
Re-activating the Building Skin

Jose Millan
Retrofitting the Village of Orcera in Andalucia
Patricia Nogueira  
A Different Scenario for Residential Buildings in Brazil

Pavitra Sanath Kumar  
Traditional Perforated Screens of India

Leonidas Tsichritzis (with Distinction)  
Residential Refurbishment

SED 8  
2012-14

Adriana Briseno Campos (Commendation for Dissertation)  
Design of Primary Schools in San Luis Potosi, Mexico, A School for the Community

Camila Della Bitta  
Rethinking the MarketDriven Urban Block, Capital Federal, Argentina

Alessandra Ghione  
Architecture to take away- design of a minimal, flexible, movable tourist accomodation

Shanuli Gupta  
Design of office buildings in warm and humid climates of Mumbai

Javier Guzman  
Slow Urbanism - Developing the abandoned urban infrastructure in Seville, Spain

Sooseok Kim  
Sustainable Built Form High Density Urban Areas of Seoul, Korea

Juan Montoliu (Awarded Distinction)  
Crisis Architecture, Colonizing Existing Concrete Structures

Mileni Pamfili (Commendation for Dissertation)  
Re-defining Urban Living in Central Athens

Sanyukta Pande  
Corporate Work Environments, New Delhi, India

Shravan Pradeep  
Design Strategies for 24 hour Work Environments in Bangalore

Kartikeya Rajput  
Rethinking Tradition, Passive housing in the Desert

Chandhana Ramesh  
Environmental Principles of Vastu Shastra for the Design of a residential community

Harshini Sampath Kumar  
Respite Architecture, an alternative to sustain fishermen's livelihood

Amedeo Scofone  
Reshaping Cities After Natural Disasters

Danielle Severino  
Layering Microclimates, Atacama Desert, Chile

Polina Vorobyeva
Adaptive Building Skin for a High-rise Office Building in Temperate Climate of Moscow

Yiping Zhu (Commendation for Dissertation)
Extending Spaces and Fading Borders, Primary School Design in Xiamen, China

MSc September 2013

May Al-Hinai
Contemporary Passive Buildings, Lessons from the Traditional Typologies in Muscat

Sarah Arboleda
Use of local materials for low cost Housing in Bogota

Marina Breves Costa
Design guidelines for Informal Urban Communities in Rio de Janeiro

Anne Cherian Matthew
In Transition, Third working spaces as means to improve comfort in office buildings in UAE

Rupalim Choudhury
Enclosure Design for animals in captivity

Juan Fernandez
Rethinking the Work Environment in Bogotá

Dominga Garufi
Refurbishment of low-income housing in Palermo, Italy

Wei Gong
The Low Energy Use Office Building in Beijing

Anastasia Gravani (Commendation for Dissertation)
Refurbishing the City Centre : a. Urban Canyons

Piya Gupta
Climate Responsive Architecture for Urban Residence in New Delhi

Eleni Kaltsoianni (Commendation for Dissertation)
Refurbishing the City Centre : c. Arcades

Eleana Malaktou
Environmental refurbishment of the vernacular residential buildings in Cyprus

Byron Mardas (Commendation for Dissertation)
Refurbishing the City Centre : b. Urban Block

Swastika Mukherjee
The Veranda Office Mumbai, India

Megha Nanaiah (Awarded Distinction)
Lessons from the Masters, A Study for Tertiary Educational Buildings in India

Jonathan Natanian (Awarded Distinction)
Climatic adaptation of the office building typology in the Mediterranean

Rawan Qubrosi (Commendation for Dissertation)
Keeping the Nomad, Adaptive Bedouin House in Wadi Rum

Isha Rathee
Renaissance: Rural Housing Development in the Desert state of Rajasthan, India

Swarnima Ray
Outdoor Thermal Comfort in Warm and Humid Climate, Study of Urban Parks in Kolkata

Tommaso Rosso
Balcony Renovation: A chance to Rethink a Space

Rashmei Sangtani
Transitional spaces in Residences in the Composite Climate of Nagpur

Vera Sarioglu
Improving the Environmental performance of traditional Ottoman houses in Istanbul, Turkey

Juan Vallejo
Environmental responsive conversion of heritage buildings in southern Spain

Zhenzhou Weng
Development of a Framework of Rapid and Compact Design-Oriented Thermal Analysis

Boyoon Zang
A Study for the Reduction of Heating and Cooling Load in Seoul, Korea

SED 7                     2011-13

MArch February 2013

Alexandra Andone
Density & Urban Form. Integrated environmental refurbishment of the peripheral superblocks in Bucharest

Pedro Augspach
Environmentally Responsive Architecture in the Urban Tissue of Buenos Aires

Jose Luis Barros
Self-Build Social Housing in Esmeraldas, Northern Equador

Valli Chidambaram
Passive cooling strategies for high rise office buildings in the warm and humid climate of Chennai

Danah Dib (Awarded Distinction)
Residential Development in Kuwait City

Ronak Gawarwala
Reinterpreting Courtyard Architecture as an Environmental Strategy for Tall Building Design in UAE

Benito Gutierrez
Environmental Strategies for Low-cost Communities in Hot-dry Regions of Mexico

Ignacio Medina
Beyond Energy Efficiency: Passive Strategies for Environmental Refurbishment in Madrid

TA Nguyen
Adaptive Housing in Climate Change: A Paradigm for Ho Chi Minh, Vietnam

Saachi Padubidri
Bazaars of Mumbai - outdoor thermal comfort in a hot-humid climate
Pilar Perez Del Real  
Environmental strategies and comfort studies for a Research Center in Seville

Izzati Mohamad Salim  
Designing Working Environments with Natural Ventilation in Warm and Humid climates: with reference to the case study of Kuala Lumpur

Tomas Swett  (Awarded Distinction)  
Office Building in Santiago, Chile. Rethinking the Office Building Typology for future scenarios.

Ajaree Tedkajorn  
Cooling Strategies for Self-sufficient Social Housing in Bangkok

Filippo Weber  
Contemporary passive shelters: A multi-functional development in Tuscany

Chandini Agarwal  
Study of Urban Voids: Thermal Comfort in Outdoor Spaces in Composite Climate of Delhi

Laura Apezteguia  
Refurbishing Navarra’s Abandoned Stone Farmhouses

Meital Ben Dayan  (Awarded Distinction)  
Environmentally responsive primary school buildings in the UK

Mariana Lebrao Cassins  
Passive Cooling for seaside hotel Buildings

Payal Chaudhary  (Commendation for Dissertation)  
Solar Control Strategies for Schools in Tropical warm and humid climates.

Jayce Chen  
Moving towards User-Oriented Intelligent Systems: a study to balance user comfort and system efficiency in work environments

Joao Cotta  (Awarded Distinction)  
Impact of Window Design on Environmental Performance of work environments in S Paulo

Nikhil Deotarase  
Cooling strategies and environmental quality for office buildings in Pune, India

Rania El Zouki  
Environmental performance of the central hall house-Lebanon: guidelines for reducing energy consumption in contemporary housing

Patricia Gallardo  
Back to basics: upgrading environmental quality of the existing residential stock in San Juan de Los Lagos, Mexico

Katia Iliopoulou  
Environmental Design Strategies for Primary School Building Typologies in Athens

Atishay Jain  
Improving living conditions for rural/low income communities: Self build with earth in composite climate of NW India
Ashwini KTV  
Visual Comfort in Work Environments- Daylight Design, Visual Transitions and Adaptive Opportunities for IT Offices in Bangalore

Mariam Kapsali  (Awarded Distinction)  
Refurbishing the Urban Blocks in Central Athens

Aimilios Kourafas  
Environmental Design Strategies for Urban Seaside Hotels in Southern Greece

Bilge Kobas  
Smart With/out a Brain: A user-based sustainable take on intelligent skin components

Shaker Majali  
Solar Gain and Thermal Mass: Passive strategies to achieve comfortable indoor environments in apartment buildings in Amman, Jordan.

Luciana Mathew  
Enhancing the Thermal Performance of School Environments in Kuwait

Marcelo Mello  
Refurbishing the Urban Fabric of Sao Paulo City centre

Humberto Mora  
Guidelines for the Contemporary Use of Traditional Techniques in Colombia

Sandra Morikawa  
Refurbishment of Underused Buildings in Central Sao Paulo

Pulane Mpotokwane  
Pedestrianizing Gaborone, Botswana

Christina Poulmenti  
Solar Control Design for Multi-storey Residential Buildings in Athens

Omar Rabie  
Cool Screen: Experimental Perforated Masonry for Hot Climates

Isabel Silvestre  
Environmental Refurbishment of Industrial Buildings/Warehouses in Lisbon

Laura Vasquez  
Facade Design for Environmental Quality in Office Buildings: with reference to the warm climate of Tegucigalpa, Honduras

SED 6  2010-12

Priji Balakrishnan  (Awarded Distinction)  
Cool Streets in Hot Climates : A means to achieve pedestrian comfort in Sharjah, UAE

Dana Bryan.  
Passive Aggression Low energy cooling in Los Angeles, USA

Ece Cakir.  
Adaptive School Environments: Elementary school design through investigation of vernacular architecture in Mardin, Turkey
Herman Calleja (Awarded Distinction)
Cool Workspaces: Passive Cooling Strategies for a Digital Creative Industry Hub in Malta

Ana Terra Capobianco
Recycling Superstructures in Sao Paulo

Alda Coelho.
Reshaping the suburbs of Maputo, Mozambique

Xavier Cordero.
The New American Model: Sustainably Densifying the Sprawling Suburban.

Noah Czech.
Sustainable City Blocks: Urban Microclimate, Building Envelope and Program

Rohit Garg.
Passive Cooling Strategies for Residences in the Composite Climate of New Delhi: Applications in a Multiple Generation Family Residence.

Lourdes Gaspart.
Alpine Rooftop Additions: Retrofit of multi-storey dwellings in the Swiss Alps.

Branden Harrell.
Community Housing, Soweto: Creating a Sustainable Township; 17 years Post Apartheid

Mina Hasman (Commendation for Dissertation)
Vernacular Ecology: Passive Strategies for Housing in Southeastern Turkey.

Preeti Mogali (Commendation for Dissertation)
Optimising Building Form and Wind Towers in Dubai: Reducing energy consumption in contemporary university architecture.

Guilherme Rampazzo.
Achieving Environmental Comfort in Detached Housing in the Sao Paulo region, Brazil

Therzia Sloet Tot Everlo.
EU Cultural Center in Rio de Janeiro: Employing the use of transitional spaces to achieve thermal comfort.

MSc September 2011

Santiago Cala.
Biomimicry: Research and application of biological strategies in the heating of buildings.

Marianna Charitonidou.
Sustainable Housing Design in Mykonos: Vernacular vs Contemporary.

Ruggero Bruno Chialastri.
Passive Cooling and Heating Strategies for Affordable Housing in Rome

Francesco Emanuele Contaldo.
Smart Refurbishment in the Mediterranean Context.

Efstathios Eleftheriadis.
Biology and Architecture : A new contract for sustainable solutions in the tropics
Danai Frantzi-Gounari.  
Environmental Refurbishment: Upgrading the residential stock of Athens.

Alexandre Hepner (Commendation for Dissertation)  
The Amazon Research Network: Sustainable Architecture for the Tropical Rainforest.

Rita John.  
The Future of the Mall Culture in India.

Georgia Katsaouni.  
Updating Vernacular: Design guidelines for vernacular settlements and buildings in Cyclades, Greece.

Keunjoo Lee (Awarded Distinction)  
Transitional Spaces for residential tall buildings in Seoul, Korea.

Patricia Linares (Commendation for Dissertation)  
Creative Refurbishment of Historic Housing in Santiago de Compostela.

Jennifer Mikus.  
Empowering occupants to redefine comfort in the American home – Raising awareness through education and technology to influence occupant behaviour and demand less energy.

Shreya Nath.  
The Passive 24 Hour Office Building in Bangalore, India.

Andrea Ortiz.  
The use of brick in Housing- Design guidelines for three different climates in Colombia.

Joram Orvieto.  
Changeable and Adaptive Portable Architecture.

Prachi Parekh.  
Responsive facade for the warm and humid climate of Mumbai.

Miryam Rizkallah.  
Environmental Performance of the Traditional Lebanese Windows.

Bjorn T. Rosaeg.  
London at High Level: Environmentally Sustainable Urban Renewal and Expansion Possibilities.

Philippe Saleh.  
Cool Balconies: Investigating the thermal properties of balconies in Lebanon.

Peggy Shih.  
Modern Sacred Environments.

Yukari Takagi.  
Passive Ventilation and Humidity Control for Existing High Rise Apartment Buildings in Tokyo, Japan.

Anna Tziastoudi.  
Working Environments: Environmental design and organisational principles for office buildings in London.

Aikaterini Vagianou.  
Passive Building Envelope in Multi-storey residential buildings in Athens.

Joao Vieira.  
Concrete in Architecture: Thermal inertia as a passive cooling strategy in working environments in Rio de Janeiro.
Helene-Sophie Vlachos (Commendation for Dissertation)
Leftovers – Exploring the environmental potential of roofs and urban voids in Athens.

Juliane Wolf (Commendation for Dissertation)
Phase-Change-Materials: An Exploration of the environmental and architectural potential.

Grega Zrim.
Double Skin Facades for Ljubljana climate: Applicability Studies.

SED 5                     2009-11

MArch  February 2011

Suraksha Bhatla.
Tall Communities: Passive Urban Housing for the Tropics

Ruth Dominguez.

Miguel Cardona Firpi.
Re-Thinking the Creda Agenda in Barcelona: Designing adaptive urban living environments in a courtyard block.

Celina Escobar.
Reinterpretation of Residential Courtyard Typology in Seville: Density studies and Environmental Strategies.

Pablo Gugel.
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Rohin Sher.
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**MA Environment & Energy Studies 1995-2005**

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