PROGRAMME GUIDE 2018-19

MASTER OF SCIENCE & MASTER OF ARCHITECTURE
SUSTAINABLE ENVIRONMENTAL DESIGN

sed.aaschool.ac.uk
MSc & MArch Sustainable Environmental Design 2018-19

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The AA is a Partner Institution and Affiliated Research Centre of The Open University (OU), UK. All taught graduate degrees at the AA are validated by the OU. The OU is the awarding body for research degrees at the AA.
SED staff and students on Graduation Day 26 June 2015

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1 INTRODUCTION & OVERVIEW

1.1 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)

Teaching Staff:

- Simos Yannas: DiplArchEng AADiplGrad(Hons) PhD
- Paula Cadima: DiplArch PhD
- Jorge Rodriguez: BArch MA MSc PhD
- Nick Baker: BSc PhD
- Klaus Bode: BSc(Hons) HonRIBA
- Gustavo Brunelli: DiplArch MA FRSA
- Mariam Kapsali: DiplArchEng MSc
- Herman Calleja: BArch MArch
- Byron Mardas: DiplArchEng MSc

External Examiner: Paola Sassi: DiplIng MSc PhD Oxford Brookes University

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 Research Seminar Terms 1-3

MSc / MArch Studio Projects

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

PROGRAMME REQUIREMENTS

180 credits (1800 hours of study) toward successful completion of the following:

Term 1 (45 credits)
1 PROJECT I: London Building Studies (25 credits)
   Introduction: Week 2; Final Review: Week 12; Submission: 9 January 2019
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: 12 December 2018

Term 2 (45 credits)
4 PROJECT II: Design Research (25 credits)
   Introduction: Week 1; Final Review & Submission: 20 March 2019
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: 24 April 2019

Terms 3 & 4 (90 credits)
7a MSc DISSERTATION PROJECT (90 credits)
   Choice of topic & submission DP Outline: end Term 2; Reviews: in Terms 3 & 4
   Submission MSc Dissertation: 20 September 2018
7b MArch DISSERTATION PROJECT (90 credits)
   Choice of topic & submission DP Outline: end Term 2; Reviews: in Terms 3 & 4
   Submission MArch Dissertation: 10 January 2020
1.2 Introduction

Sustainable Environmental Design (SED) engages with real-life problems that affect buildings and cities across the world. Design research for the SED Masters programme is driven by evidence-based performance criteria following a process of adaptive architecturing, which proceeds from inside to outside, attuning built form and its constituents to natural rhythms and occupant activities. Key objectives are to improve environmental quality in cities, achieve independence from non-renewable energy sources, and develop an environmentally sustainable architecture capable of adapting to changing climates and urban environments. The taught programme is structured in two consecutive phases. Phase I is organised around team projects involving MSc and MArch students in experimental and computational studies applying the knowledge and tools introduced in weekly lectures and workshops. In Phase II, MSc and MArch students engage in design research individually following research agendas that reflect each student’s home climates, urban contexts and specific environmental interests. Dissertation projects may address home, work, learning and mixed-use environments, new or existing, thus encompassing a wide range of built densities and urban morphologies. MSc candidates explore the architectural potential and applicability of their chosen topic in its geographic and climatic context. MArch dissertations culminate in a specific design application for a given site and design brief. In the last ten years SED students have engaged in over 500 projects spread around some 60 countries and 150 cities from 0° to 60° North and South of the Equator, and from 125° West to 140° East of Greenwich.

The MSc and MArch in Sustainable Environmental Design are post-professional degrees offering graduates specialisation options to engage in further research, teaching or practice. In recent years the programme’s graduates have found employment with some of the UK’s leading architectural practices (Arup Associates, Architype, Avanti Architects, Bennetts Associates, Building Design Partnership, ECD Architects, Feilden Clegg Bradley, Foster & Partners, Grimshaw, HOK, KPF, Make Architects, Populous, PRP Architects, SOM, Wilkinson Eyre and many others) and environmental engineering consultancies (Arup, Atelier Ten, Atkins, Chapman BDSP, Buro Happold, Fulcrum, Scott Wilson, WSP Environmental and others); see 13 External Links and SED Alumni in UK in this Guide. Many have returned home to run their own successful practices or to go into research and teaching; see 13 External Links and SED Alumni abroad. Over the years many of the programme’s graduates have achieved senior positions in academia as well as in practice and have themselves influenced the teaching, research and practice of sustainable design in some many countries and climatic regions.

The programme’s teaching methods and student projects have featured in many international conferences and publications. Forthcoming events include the PLEA (Passive and Low Energy Architecture) 2018 Conference “Smart and Healthy within the 2 Degree Limit” to be held in Hong Kong 10-12 December 2018 where several recent SED projects have been accepted for presentation. Previous conference presentations include the PLEA 2017 Design to Thrive in Edinburgh in July 2017, PLEA 2016 in LA, PLEA 2015 in Bologna, Italy, and PLEA 2014 in Ahmadabad, India, where the AA SED participation included an exhibition of MSc and MArch dissertation projects by twelve of the programme’s Indian graduates. Earlier events include Ecbuild 2012, the UIA Congress in Tokyo, the PLEA 2011 conference in Louvain-la-Neuve, Belgium, PLEA 2009 in Quebec, Canada, the Jerusalem Seminar in Architecture in 2009, the PLEA 2008 Conference “Towards Zero Energy Buildings” in Dublin in 2008, and the Sun, Wind & Architecture Conference in Singapore in 2007, the PALENC 2007 Conference on the island of Crete, Greece and many others. Publications of AA SED project work have appeared in the scientific journals Architectural Science Review, Energy and Buildings, and Sustainable Cities and Society, and in a number of books and architectural journals including Architectural Design, Carré Bleu, Architecture and Urbanism, World Architecture, Arquitectura e Vida, Pós, Axis, 2A Art & Architecture, the recent book Green Design: from theory to practice edited by Ken Yeang, the AA publications, Environmental Tectonics and Articulated Grounds: Mediating Environment and Culture and others. All in all some 100 papers were published in the last five years on the work undertaken within the AA SED MSc / MArch programme. 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.
SED students and staff attended the PLEA 2017 Conference in Edinburgh. They were joined by over a dozen recent SED alumni presenting research papers based on their final dissertation projects.
1.3 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 dates from the early 1950’s when its Tropical Studies Department was formed to run postgraduate courses in tropical architecture that continued till the early 1970’s. This was followed by the one-year Graduate Diploma in Energy Studies, that was initiated in 1974 in the aftermath of the 1973 energy crisis and delivered annually till 1994. In 1994-95 the Diploma in Environment & Energy Studies was validated as an MA. 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.
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.

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.

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

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 permanent 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.

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.

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 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 shortlisted for the RIBA Book Award for Architecture. The publication of the book and its accompanying simulation software is the culmination of a European research project with participation 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 Projects from this year's study trip to the Gulf Region are published in a Special Issue of the 2A Architecture & Art Magazine and the work is presented at Harvard University's Centre for Middle Eastern Studies. A structure designed at Hooke Park by the 2006-07 SED students was erected and tested on the site of the American University of Sharjah.
2008-09

Some twenty of the programme’s recent students presented papers at the PLEA 2008 Conference in Dublin and the PLEA 2009 Conference in Quebec where SED had a large exhibition of Building Case Studies. A number of exhibits were also shown at the Ecobuild exhibition in London in early March 2009. Articles were contributed to several books.

SED Students preparing to present their projects at PLEA 2009 (left) and (right) MArch presentations at AA Lecture Hall.

(above) SED team reconstructs Heliotropic Bench for display at Ecobuild in London, March 2009.
(below) SED students posing in Madrid, April 2010.

2009-12

Collaboration in a three-year project "Environmental Design in University Curricula and Architectural Training in Europe" (EDUCATE) sponsored by European Commission.
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.


2014-15  A good number of SED alumni gathered in Ahmadabad, India for the PLEA 2014 Conference hosted by CEPT University in December 2014. Besides papers presented individually SED presented an exhibition of dissertation projects by twelve of the programme’s recent Indian graduates. Helped by good weather Projects in India was exhibited in one of CEPT’s open courtyards.
Projects in India was curated by Simos Yannas with Mileni Pamfili (SED MArch 2014) in London and Kanika Agarwal Mahadevwala (SED MArch 2008) in Ahmedabad.
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 (above). Over a dozen other papers were presented by SED staff and students at the same conference. In May 2016 SED team won Labgrade Design Competition held in Milan for the refurbishment and extension of a hotel in North Italy. Juan Montoliu and Jorge Rodriguez win Best Paper Award at the PLEA 2016 Conference held 9-11 July 2016 in Los Angeles. Ten other papers were presented by SED students and recent graduates at PLEA 2016.

Collaboration with London architectural and engineering practices continued, initially in the Term 1 Building Studies and later through project reviews and presentations of SED projects to the practices. In Term 3, presentations by London-based SED alumni were followed by roundtable discussions on the relationship between research and practice in relation to current and future prospects of sustainable environmental design. SED alumni who took part in these roundtable discussions included Meital Ben Dayan (SED MSc 2012), Kimmy El’ Dash (SED MArch 2015), Ronak Gawarwala (SED MArch 2013), Natasa Gravani (SED MSc 2013), Mina Hasman (SED MArch 2012), Annie Laurie (SED MArch 2015), Maria Lumbreras (SED MSc 2014), Jeewon Paek (SED MArch 2011), Malgorzata Tomczuk (SED MSc 2016), Olga Tsagkalidou (SED MSc 2015) and Vera Sarioglu (SED MSc 2013).
In May 2017 the SED programme was revalidated as part of the 5-year review of postgraduate Masters programmes. The Revalidation Panel commended AA SED for its coherence, cultivation of research methods and comprehensiveness of its documented archive of programme resources and outputs.

In July 2017 some 14 papers were presented by SED graduates at the PLEA 2017 conference in Edinburgh in (see section 8.2 for list of papers).
Rafael Alonso Candau Whole Life Carbon in Office Building Design in London. MArch Dissertation Project 2017

2017-18 Following a joint Symposium on Simulation with EmTech and Landscape Urbanism in January 2018, SED teamed up with Design & Make and Landscape Urbanism for a weekend in Hooke Park. In June the SED study trip was to Bologna, Italy for a two-day workshop with students from the School of Sustainability hosted by MCA Architects. This was followed by a visit to the Biennale in Venice guided by Irene Giglio (SED MArch 2015) a member of the curating team.

SED group with colleagues from the School of Sustainability at the office of Mario Cucinella Architects in Bologna, Italy following joint workshops on this year’s study trip, June 2018.
SED workshops at Hooke Park with Design & Make and Landscape Urbanism students, May 2018.

The Italian Pavilion at the Venice Biennale 2018.
View of the SED display area at the AA 2018 end of year exhibition showing completed MArch dissertation posters (front left) and work in progress on newly started MSc and MArch dissertation projects. The table (front right) has a geographic and thematic mapping of all SED MSc and MArch projects.

(above) Thermal images of three of the buildings at Hooke Park taken during this year’s SED visit there in May 2018. (opposite page) Mapping of air temperature at heights of 50-300m above ground at Hooke Park, taken with a datalogger mounted on a drone.
Data Logger + Drone

Sustainable Environmental Design

Landscape and Urbanism

Covered Area

Drone Starting Point

Measured Air Temperature at Different Heights

8.8 - 9.1°C

7.7 - 8.1°C

6.8 - 7.0°C

5.3 - 5.5°C
1.4 MSc + MArch Sustainable Environmental Design Research Agenda

In 2018-19 AA SED will be embarking on its 14th 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 climatic regions and urban contexts spread between latitude 0° and 60° North and South and in longitudes from 125° West to 140° East. AA SED cohorts have achieved outstanding academic results in the programme’s latest completed MSc and MArch cycles of 2016-18.

Refurbishing the City Projects

In 2018-19, Refurbishing the City, a continuing SED research agenda, will start a new chapter of collective design research in collaboration with London-based architectural and engineering practices. This will involve environmental performance studies of selected London buildings in Term 1, followed in Term 2 by design research based on the findings of these building studies. In Terms 3 and 4, MSc and MArch students will embark on individual dissertation projects that will extend into many other cities and climatic regions. Recent SED dissertation projects have addressed warm climates, passive environmental features, outdoor living and occupant-centred adaptive strategies encompassing home, work, learning and mixed-use environments.

London Building Studies, Term 1

With London as laboratory and project teams that combine MSc and MArch students, on-site observations and environmental measurements in selected buildings will be followed by use of advanced computational tools to investigate the relationship between climate, building design and occupants highlighting the role of fieldwork and computational simulation in informing design research and architectural practice.

Design Research, Term 2

The insights gained from the Term 1 building studies will provide the starting points for design research applying the methodology and computational tools of adaptive architecturing to address key issues relating to urban morphology, climate change, building and lifestyle trends and technological developments that shape the future of the city.

MSc & MArch Dissertation Research, Terms 3 & 4

Individual research for the MSc and MArch dissertation projects provides the opportunity to explore design options and computational studies across climatic regions, building types, design specifications and operational conditions addressing social and environmental research agendas of direct interest to their home context.
2  TEACHING STAFF CV’s - for details and lists of publications see aaschool.ac.uk

Simos Yannas has led environmental design research and teaching at the AA since the late 1970’s and has lectured and taught in many countries. He has taken part in collaborative national and international research projects and his books and papers have been published in over a dozen languages. At the AA, he is responsible for the post-professional MSc and MArch programmes in Sustainable Environmental Design (AA SED) and the School’s PhD Programme. His two-volume Solar Energy and Housing Design, published in 1994, was widely acclaimed and still features on reading lists around the world. More recent books include the Portuguese language Em Busca de uma Arquitetura Sustentavel para os Tropicos (Toward a Sustainable Architecture for the Tropics; Roof Cooling Techniques—a design handbook, which was shortlisted for the Royal Institute of British Architects’ RIBA International Book Award for Architecture, and Lessons from Vernacular Architecture published 2014. His essays on adaptive architecture have appeared in a special issue of AD Architectural Design and in Architecture and Energy-Performance and Style published by Routledge. He is a founding member and the permanent Secretary of PLEA, an international expert network on sustainable architecture and urban design started in 1981. https://www.aaschool.ac.uk/PORTFOLIO/RESEARCH/profile.php?theme=&researcher=12034

Paula Cadima is co-director of the MArch+MSc Sustainable Environmental Design, a supervisor in the AA PhD Programme and a Member of the AA Teaching Committee. She has been in architectural practice and environmental research for more than twenty five years and has taught at the Faculty of Architecture at the Technical University of Lisbon, where she was Founding Director of the Bioclimatic Architecture MPhil Programme. 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 was the president of the International PLEA Network from 2011-2017.

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.

Nick Baker originally studied physics and after a brief period in medical physics, has spent most of his professional life working in architecture and building. His interests have included, energy modelling, daylight design, natural ventilation and thermal comfort, as well as the broader field of sustainable design. He has written and contributed to several books on these topics, including a book on Sustainable Refurbishment partly based on material from a recent EU funded demonstration project, where he served on the expert panel. More recently he has become interested in the way occupants interact with buildings and their surroundings, and in particular, the way their behaviour influences energy use. For much of his career he was a lecturer at Cambridge University Department of Architecture. He is now retired but is still involved as a visiting lecturer and external examiner at several universities.

Klaus Bode co-founded BDSP Partnership, a London-based environmental engineering firm with offices in London, Belgrade and Sao Paulo and projects in many countries. He was project engineer on Foster+Partners’ Commerzbank and on Rogers/Piano’s Potsdamer Platz developments in Berlin. He has collaborated with the Rogers Partnership on the Welsh Assembly building in Cardiff, with the sculptor Antony Gormley on the engineering of the Blind Light exhibition and with Grafton Architects on the Bocconi University in Milan among other projects. He has started a new London-based practice Urban Systems Design.
**Gustavo Brunelli** graduated from the Faculty of Architecture and Urbanism of the University of São Paulo and won an Alban scholarship to the MA in Environment & Energy Studies at the AA, which he completed with Distinction in 2004. He has worked as an environmental consultant in numerous projects in the UK and abroad, ranging from large mixed-use masterplans to small specialist exhibitions. Gustavo currently heads the Advanced Building Optimisation group at engineering consultants Hurley Palmer Flatt.

**Herman Calleja** has practiced as an architect in Malta and Spain before joining the M.Arch in Sustainable Environmental Design at the AA, graduating with distinction in 2012. Since then he has worked as an Environmental Consultant at BDSP/ChapmanBDSP assisting various design teams with regards to environmental design, occupant comfort, façade design, CFD analysis, daylighting and passive design strategies that reduce heating, cooling and lighting demand. At ChapmanBDSP Herman has introduced the application of parametric environmental design and has worked on a variety of projects including a university building for the Institut Mines-Télécom with Grafton Architects, the LSE CBR with RSH+P, a mixed-use development with Foster+Partners, the Dubai Observation tower with Santiago Calatrava, a high-rise office tower with AHMM and a private residence in UAE with Zaha Hadid Architects. Herman is interested in the application of parametric design research within the field of Environmental Design. Pursuing this research Herman has participated in various Smart Geometry workshops since 2008. He has attended tuition under Arthur Mamou-Mani, Martha Tsigkari and Ecologic Studio and has recently completed a Parametric Engineering course at Imperial College. Herman has also contributed at a number conferences as NCEUB and PLEA. His main area of interest is the combination of climate-based daylighting modelling with the assessment of occupant thermal comfort through a parametric design platform.

**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.

**Byron Mardas** is a course tutor, teaching software and methodology in the Sustainable Environmental Design programme. He is also a senior Environmental Designer at Foster and Partners in London. He is involved in the environmental assessment and improvement of several projects worldwide and together with other members of the team, tries to develop new tools, both for in-house and public use in order to improve workflow. His goal is to enable better integration of environmental thinking during the design process with the use of parametric and dynamic techniques, attractive to architects.
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 research toward dissertations aim at equipping participants with cognitive, experiential, analytic and generative skills enabling them to engage in interdisciplinary 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. Learning outcomes are listed below. These are listed under groupings relating respectively to the acquisition of knowledge and understanding, to specific skills and transferable skills. Most are common to both the MSc and MArch options. Those specific to MSc or MArch are identified in the listings below.

3.1 Knowledge and understanding

On successful completion, 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 understanding of the 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, 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 involving observations, surveys and measurements in and around buildings and outdoor spaces 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 (MSc) formulate guidelines and proposals for new or existing buildings taking account of context, climate, and occupancy
B7 (MArch) develop and test original design applications.

3.3 Transferable skills and attributes

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

C1 use appropriate analytical tools and other research techniques to formulate and test research hypotheses
C2 engage in environmental research as a member of interdisciplinary international team.
C3 use a variety of media to communicate effectively with clients and colleagues.
C4 continue expanding their knowledge using the skills acquired on the course.
### 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** | | | | | | | | | | | | | | | | |
| of key concepts of sustainable environmental design | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| of building energy modeling and simulation tools and applicability to design | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| of significant built precedents | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| of environmental attributes of historic and contemporary buildings | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| of wider issues of environmental sustainability | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| critical positions in relation to tendencies in architecture and criticism | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| specific skills and attributes | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| reviews of technical and theoretical aspects of environmental sustainability | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| plans, implement, process and interpret fieldwork in buildings and outdoors | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| assess environmental attributes of historical and contemporary buildings | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| guidelines for buildings taking account of climate, site and occupancy | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| design work & test original design applications | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| MArch develop and test original design applications | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| MSc develop and test original design applications | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| MArch develop and test original design applications | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| MSc develop and test original design applications | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| transferable skills and attributes | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| use analytic tools and research techniques to test hypotheses | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| engage in interdisciplinary environmental research | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| criticism of the current architectural and environmental condition | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| assess the potential offered by new materials and technologies | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| develop and test original design applications | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| MArch develop and test original design applications | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| MSc develop and test original design applications | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| All Assessed Work | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| Terms 1-3 Lecture Series | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| PRINCIPLES & THEORIES | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| PRACTICE & EXAMPLES | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| TOOLS & TECHNIQUES | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| Terms 1-4 Workshops & Tutorials | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| TOOLS WORKSHOPS | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| DESIGN WORKSHOPS & TUTORIALS | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| DISSERTATION SEMINARS & TUTORIALS | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| All Assessed Work | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| PROJECT I | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| ESSAYS | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| TECHNICAL STUDIES | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| PROJECT II | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| MArch DISSERTATION | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| MSc DISSERTATION | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
4 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 analytical 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 in 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 project is developed under close individual supervision.

Students are accepted on the programme either for the MSc or for the MArch. Switching degrees is only allowed under exceptional circumstances and then only to the shorter degree. Students with 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 how this may influence their dissertation work. In considering such applications the programme staff will take account of students’ Term 1 course work results.

The taught programme is divided into four terms. Most of the lecture content is delivered in the first two terms (October to March inclusive) and is common to both MSc and MArch students. Over the same period, course work combines team projects, technical studies and individual research papers. Terms 1 and 2 project teams combine MSc and MArch students. In Term 3 students embark on the research for their individual Dissertation Projects. MSc students work on their Dissertation projects non-stop through the summer for submission before the start of the following academic year. MArch students take a summer break at the end of Term 3 returning to the School in Term 1 of the following academic year. Both MSc and MArch dissertation projects start with the formulation of research agendas derived from literature research and study of built precedents. Students then proceed with fieldwork and computational studies aimed at identifying potential for worthwhile improvements that serve the programme’s stated objectives. MSc dissertations present their research outcomes by mapping and documenting their applicability across a range of geographic, climatic or programmatic scenarios. The MArch dissertation research is expected to lead to a design application for a specific site and building programme.

Credits for course work and dissertation projects 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 6 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 SED studio which is open till late in the evening seven days a week. Regular courses and Term 1 projects 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 are introduced on Week 1 of the academic year. The SED programme’s incoming MSc and MArch students will introduce themselves with short presentations on that week. Listings of weekly events are provided in SED Term schedules issued each term and updated regularly. AA Weekly which is emailed to students and staff each week has the latest information on daily events around the School.
Lecture Courses & Workshops

Adaptive Architecturing, Term 1
Providing local architectural solutions to global issues requires an understanding of what makes a good environment for occupants and how this may vary across climates, building types and individual preferences. How does architecture contribute to making good environments and can it reclaim its historical role as a tool of sustainable environmental design? This course introduces a generative framework for an adaptive, culturally sensitive, occupant-centred architecture seeking a symbiotic relationship with the city.

Sustainable City, Term 1
This course reviews theories of urban sustainability introducing instruments and tools that can be applied to its assessment. The role of urban morphology on the microclimates encountered in cities and on energy consumption and climate change is illustrated with case studies from different urban contexts encompassing scales ranging from the regional to that of the urban block.

Environmental Simulation & Performance Assessment Tools, Terms 1 & 2
This hands-on course runs in day-long weekly sessions that follow the tasks of the Term 1 team projects, introducing the analytical procedures and computational tools that drive the SED research agenda. The course begins with fieldwork techniques based on indoor and outdoor observations and environmental measurements. This is followed by computer modelling of selected processes and spaces, testing of models against measurements, and running simulations to assess the effects of solar, thermal, airflow and daylighting processes against targets and benchmarks. A range of computational tools will be introduced and applied to diagnostic tasks as well as generative processes. Their application is initially explored on the team projects providing the essential expertise required for undertaking the MSc and MArch dissertation research in Terms 3 and 4.

Environmental Design Primer, Terms 1 & 2
This course deals with key areas of environmental design research as these relate to architecture and urban design. Topics include urban climatology and the theories of occupant comfort and wellbeing; the physics and architecture 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 several practising architects, engineers and researchers are invited to present projects that illustrate their philosophy, practice and experience with sustainable environmental design. Individual presentations are accompanied by roundtable sessions exploring the relationship between practice and research. The course includes building visits and study trips in the UK and abroad.

Research Seminar, Terms 1–4
In Terms 1 and 2 the seminar provides a regular forum for critical reading and literature review providing support to researching and writing the two individual research papers that act as the foundations for dissertation projects. Students are encouraged to produce work worthy of presentation in international events and publication in journals and conference proceedings. This year the PLEA 2018 Conference to be held in Hong Kong in December has accepted for presentation 14 papers produced jointly by SED students and teaching staff.

Studio Projects

London Building Studies, Term 1
With London as laboratory and project teams that combine MSc and MArch students, on-site observations and environmental measurements in selected buildings will be followed by use of advanced computational tools to investigate the relationship between building, climate and occupants highlighting the role of empirical and analytical investigations in informing design research and architectural practice.

Design Research, Term 2
The insights gained from the Term 1 building studies will provide the starting points for design research applying the methodology and computational tools of adaptive architecturing to address key issues
relating to urban morphology, climate change, building and lifestyle trends and technological developments that shape the future of the city.

**MSc & MArch Dissertation Research, Terms 3 & 4**

Individual research for the MSc and MArch dissertation projects provides the opportunity to explore design options and computational studies across climatic regions, building types, design specifications and operational conditions addressing social and environmental research agendas of direct interest to their home context.

5 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. In Terms 1 and 2, project work is undertaken in teams that combine MSc and MArch students. Dissertation research is started collaboratively under thematic groupings and continued individually so that students can contextualise their projects for the climatic and other specificities of their chosen geographic region and urban environments.

5.1 Lecture Courses

Attendance of all 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 thus providing a critical overview of the research directions pursued by the programme and by the field as a whole. Term 1 lectures are given by the programme’s regular staff so as to ensure continuity and direct support to project work. In Terms 2 and 3 many 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 as well as 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. 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 areas and project work.

5.2 Seminars & Workshops

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

5.3 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 will take place during Term 2 or 3.

5.4 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. Each team project accounts for a total of 35 credit units (a nominal 350 hours of student effort including attendance of related courses) per student including Technical Studies. Project learning outcomes, submissions of project reports and assessment procedures are discussed in section 6 of this Guide.
5.5 Research Papers
Research papers are expected to provide a critical overview of published literature on selected topics relating to the programme’s lecture courses and project briefs. Choice of topic, literature research and writing of the research papers are supported by regular individual tutorials. Research papers should be targeted at between 3,000 and 4,000 words. Each paper represents 10 credit units (a nominal 100 hours of student effort including attendance of related courses). Project learning outcomes, submissions of project reports and assessment procedures are discussed in section 6 of this Guide.

5.6 Technical Studies
Technical studies may involve fieldwork and/or use of 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). Project learning outcomes, submissions of project reports and assessment procedures are discussed in section 6 of this Guide.

5.7 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 for a specific site and building programme. MSc dissertations deal with the design applicability of their research outcomes and as such have a broader geographic, climatic and typological scope than the MArch. A list of all completed MSc and MArch Dissertation Projects is included in the Appendix highlighting differences in the respective research agendas. Dissertation topics are decided by the end of Term 2 and confirmed with the submission of written outlines aimed at providing evidence that the proposed topic is within the student’s grasp, capabilities and work plan. A brief first stage of dissertation research lasting a couple of weeks at the beginning of Term 3 may be undertaken collaboratively. Collaboration at this early stage can facilitate the collection and study of relevant 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. Project learning outcomes, submissions of project reports and assessment procedures are discussed in section 6 of this Guide. A list of completed and continuing Dissertation Projects is included in Appendix 3.

5.8 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. Staff are available for tutorials by appointment and/or at pre-arranged times.

5.9 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.

5.10 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. A written questionnaire is submitted by outgoing students at the end of the course.
6 COURSE CREDITS, LEARNING OUTCOMES & ASSESSMENT PROCEDURES

6.1 Course Credits

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

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<th>Credit</th>
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<tr>
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</tr>
</tbody>
</table>
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 are normally 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), 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.

In Terms 3 & 4 the assessed work consists of the Dissertation Project 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.

6.2 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
The 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 done in teams of 2-4 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 into account 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.

6.3 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 2-4 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 into account 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 applied to design research

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. capacity 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.

### 6.4 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 a 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. capacity 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.

6.5 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 Project (DP) is supported by the Research Seminar that runs throughout the academic year. The DP is first introduced during Term 2 in conjunction with the Research Paper 2 from which the topic of the DP is normally derived in consultation with teaching staff. In Term 3 the brief of DPs is developed in some detail through a series of seminars and weekly tutorials.

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, research is followed by a design application developed in some detail for a given design brief, site and climate. The MSc dissertation deals with design applicability of research results across climatic regions and/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.
6.6 Organization & Submission of Course Work

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 / MArch Sustainable Environmental Design
- Term 1 (or 2) Project (or Research Paper) 2018-19
- Full Title / Subtitle of Project / Paper
- Student first name(s) and surname(s)

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 2018-19 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.

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).

6.7 Organization & Submission of Dissertation Projects

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 MA, MSc and MA Dissertations completed since the programme’s initial validation for a Masters degree in 1994 is included in the Appendix.

**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 the 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 kinds 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**.

**Dissertation Document Structure & Contents**

The Dissertation for the MSc / MArch Sustainable Environmental Design is an illustrated book of some 15,000 words (+/-1,000 words) for the MSc and 12,000 words (+/-1,000 words) for the MA including references and appendices presenting the work as described below.

i. **Cover Page**: this must include the title of the degree: MSc or MA, the name of the school: Architectural Association School of Architecture; the title and sub-title of the Dissertation Project; student name(s) and surname(s); type of submission (Dissertation), month and year of submission (September 2019 for the MSc, January 2020 for the MA).

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 the dissertation is aiming to do; research questions and hypotheses tested; how the work was carried out (including reference to methods and tools used); summary of results obtained; how the contents are 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 section. **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 the results are used in the dissertation.

x. **Analytic Work**: This could comprise separate chapters for different types of analytic work; each section must include explanations about 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.

**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 2018> or <MArch 2019>. 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 2018-19 (2018-20 for MArch)
- Full Title and Subtitle of the Dissertation Project
- Student first name(s) and surname(s)
- September 2019 (MSc); January 2020 (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 below or rise above 15,000 words by more than 1,000 words (excluding appendices and bibliographical references). MArch Dissertations are expected to contain less text, with a target of 12,000 words, 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 2019 (or MArch Dissertation 2020). 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 2018-19 MSc Dissertations is the 20th September 2019. The deadline for the submission of 2017-19 MArch Dissertations is the 10th January 2020.

6.8 Referencing Conventions for Course Work & Dissertations

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 as indicated 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:

Smith (2014a, 2014b, 2015) found that . . .
Recent work (Smith, 2017) suggests that . . .
Early studies (Smith, 1975; Smith and Jones 1980; Jackson 1990) . . .

Online sources and software tools can be cited in the same manner.

b) Tables and Figures: the source must be cited below the table or figure. Example: (Source: Smith 2000). Online sources must be cited by the name of the source. The same applies to software (e.g. Source: Meteonorm). 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. Software used to produce the results should be cited in the text as part of a methodology section.

c) Quotations: A quotation is an exact reproduction of a statement or passage of text written by someone else. A quotation is always enclosed 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:


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.

6.9 Assessment Procedures

Submitted work is assessed and marked by two members of the programme's teaching staff. Marks and assessment reports are then reviewed and agreed. 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 and analytical 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 team effort, 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 at 50% and grades as shown below. These are common to all Masters Programmes at the AA School.

<table>
<thead>
<tr>
<th>Mark</th>
<th>Grade</th>
<th>Performance</th>
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<tbody>
<tr>
<td>70 and above</td>
<td>A</td>
<td>Excellent Pass / Distinction</td>
</tr>
<tr>
<td>65-69</td>
<td>B+</td>
<td>High Pass</td>
</tr>
<tr>
<td>60-64</td>
<td>B</td>
<td>Good Pass</td>
</tr>
<tr>
<td>57-59</td>
<td>C+</td>
<td>Satisfactory Pass</td>
</tr>
<tr>
<td>54-56</td>
<td>C</td>
<td>Adequate Pass</td>
</tr>
<tr>
<td>50-53</td>
<td>D</td>
<td>Low Pass</td>
</tr>
<tr>
<td>49 and below</td>
<td>F</td>
<td>Fail</td>
</tr>
</tbody>
</table>

The marks awarded by the internal assessors are averaged to establish an agreed mark for each submitted piece of work. An average mark is then calculated for the course work as a whole using the credit rating of each team project and research paper. To qualify for the Masters award students must attain the 50% threshold mark on both the course work and their Dissertation Project. An overall mark is then calculated with the course work accounting for 50% of the total credit and the Dissertation accounting for the other 50 percent. The degree is awarded "with Distinction" when the combined weighted average of course work and dissertation marks equals or exceeds 70 percent.

Students who fail to attain a pass mark on a team project or research paper are required to resubmit the failed item and must pass 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 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 (7 or more days after the deadline) of team projects, research papers or dissertations without accepted mitigating circumstances is marked as Fail. In those cases, resubmission will be subjected to mark capping at 50%. Submissions late by up to seven days without accepted mitigating circumstances will have 10 marks deducted for each calendar day, down to the 50% mark. 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 work by others is duly acknowledged following agreed conventions discussed above. 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. See also AA Academic Regulations.
7 RESOURCES

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 AA Prospectus provides detailed information on all aspects of the AA School's organisation, resources and facilities, and its academic and administrative policies. The resources and facilities listed in this section are those specific to students on the MSc / MArch in Sustainable Environmental Design.

7.1 SED Archives & 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. The EE folder contains a comprehensive collection of dissertations and team projects from previous years in PDF format. Lectures, software, project briefs and all other material required on a daily basis for the course are also stored in this folder for access by the programme's current students. Printed copies of all team projects and dissertations are kept in the Programme's Offices. Lectures, software, project briefs and all other material required on a daily basis for the course are also stored in this folder for access by the programme's current students. The AA Library (www.aaschool.ac.uk/library) stocks all of the books listed on the programme's Reading Lists. A selection of material from these Lists is also held on a separate shelf at the Library 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.

7.2 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 software within and outside the School.

7.3 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 regular events, tutorials and reviews. Most spaces within the School provide wireless Internet access.

7.4 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 responsible for their keep. Instruments are available on a first come, first served basis according to students' research requirements. Especially early notice is needed when they are to be taken abroad.

7.5 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 those fabricated by the programme's students in previous years. Students wishing to use the AA School's Bedford Square workshops must attend introductory training sessions on the first week of the academic year.

7.6 SED Studio

The programme's studio is open from 0900 hours to 2200 hours on weekdays and weekends all-year round. All of the programme's specialist software can be run from the studio and the programme's scientific instruments are kept there.
Appendix 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 scrutinised carefully early in the year as they deal with material that is essential to the taught programme and SED 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 can be consulted in due course. For clarity and ease of use, the books and papers listed here have been grouped under the following thematic categories listed alphabetically:

- Building Examples & Case Studies
- City microclimates, Design of Outdoor Spaces
- Comfort, Post-Occupancy Evaluation, Behavioural Studies
- Daylighting
- Environmental Design Principles
- Environmental Engineering
- Environmental Design Data & Assessment
- Materials & Construction
- Passive Heating & Cooling
- PLEA Conference Proceedings
- Sustainability Theories & Issues
- Ventilation

Books and papers that relate to more than one topic may appear more than once. The symbol <r>see also:<> is used to cross-reference the thematic categories; it also highlights additional bibliographical sources. The books listed here can be consulted at the AA Library in printed and/or electronic forms. 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 Jupiter 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. It also includes many other relevant publications that may not be listed here. New students joining the programme must follow the induction events organised by the Library. Open University library resources are also available to AA postgraduate students and can be accessed at: www.open.ac.uk/library/. 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

† AA SED (2018) Living. Published Papers 2017-18 [FS]
† AA SED (2017) Published Papers 2016-17. Published Papers 2017-18 [FS]

See also: AA E+E SED Building Studies Projects from previous years (in SED Studio, Office and on File Server).
See also: Architects Journal Building Library ajbuildingslibrary.co.uk
See also: Architectural Review, The Plan, Detail and other architectural periodicals
See also: PROBE (Post-occupancy Review of Buildings and their Engineering) case studies at: www.usablebuildings.co.uk/

City Microclimates, Design of Outdoor Spaces

Ng, E. (Ed. 2009). Designing High Density Cities. Earthscan.
Comfort, Post-Occupancy Evaluation, Behaviour Studies

Baker N V. (2001). We are really outdoor animals. Moving comfort standards in the 21st century Conf. [†]
CIBSE (2017). Design Methodology for the Assessment of Overheating Risk in Homes. TM59 Chartered Institution of Building Services Engineers, London. [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
† see also The European Database of Daylight and Solar Radiation www.satel-light.com/core.htm

Environmental 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 Design Data & Assessment

CIBSE (2017). Design Methodology for the Assessment of Overheating Risk in Homes. TM59 Chartered Institution of Building Services Engineers, London. [FS]
		† see also: Specialist environmental software used on SED project work.
		† see also: BRE Green Guide www.bre.co.uk/greenguide
		† see also: BREEAM www.breeam.org/
		† see also: CarbonBuzz www.carbonbuzz.org/
see also: PROBE (Post-occupancy Review of Buildings and their Engineering) case studies at: www.usablebuildings.co.uk/
see also: UK Building Regulations and Building Research Establishment (BRE) Publications.

Materials & Construction Techniques


see also Environmental Design Principles & Data, Engineering Manuals, Environmental Analysis Tools & Data.

Passive Heating & Cooling


see also: Daylighting; Design Principles; Ventilation

PLEA Conference Proceedings

PLEA 2017 Edinburgh; see online at: https://plea2017.net/
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

**Sustainability Theories & Issues**


**Ventilation**

AA SED Student & Staff Publications 2012-18

2018


Singh, G. and J. Rodríguez-Álvarez (2018). Breaking the Glass Box for 24/7 IT Offices in Delhi NCR. Proc. PLEA 2018 Conference, Hong Kong.


2017

AA SED (2017) Published Papers 2016-17. See below for individual papers. [FS]

“Design to Thrive” Vol 1 pp1014-1022.


2016


Over a dozen papers were presented by AA SED at PLEA 2015 held September 2015 in Bologna, Italy (left: PLEA 2015 Parallel Sessions; right: Pavitra Sanath Kumar (AA SED MSc 2014) presenting her dissertation project on Jaalis in one of the sessions).

2015


2014


Projects in India. An exhibition of 12 AA SED Dissertation Projects curated by Simos Yannas and displayet at CEPT University Ahmedabad on the occasion of the PLEA 2014 Conference.


2013


2012


Note: Pre-2012 AA SED publications have not been catalogued yet.
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/

BREEAM
www.BREEAM.com

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/

EDUCATE
www.educate-sustainability.eu/

EnergyPlus.net
Documentation

European Commission Research
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

IEA Energy in Buildings & Communities
www.iea-ebc.org

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

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
Appendix 2  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,  Matriciel, Belgium
Dr Arnaud Evrard, VERNAtec, Germany
Dr Sophie Trachte, Dr Magali Bodart  Architecture et Climat, Catholic University of Louvain, Belgium
Bill Dunster  Bill Dunster Architects, London
Prof. Brian Ford  Natural Cooling Ltd, UK
Prof. Bill Gething  University of West England
Prof. Dean Hawkes  (Emeritus) Welsh School of Architecture
Richard Hawkes  Hawkes Architects
Catherine Harrington  Architype Architects
Dr Alan Harries  Integration, London
Prof. Andreas Matzarakis  German Weather Service
Prof. Fergus Nicol  Low Energy Architecture Unit, London Met
Beccy 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, Ben Gurion University of the Desert
Prof. Edward Ng  Chinese University Hong Kong
Manit & Sonali Rastogi  Morphogenesis, New Delhi
Prof. Emmanuel Rey  EPFL & Bauart, Switzerland
Prof. Harald Rostvik  Bergen School of Architecture, Norway
Prof. Alan Short  University of Cambridge
Dr Derek Taylor  Altechnica & Open University
Alexandros Tombazis  Tombazis & Associates, Athens
Recent AA SED Alumni working in London

Angeliki Antoniou  Hodkinson Consultancy
Rafael Alonso Candau  Director Atmos Lab
Alexandra Andone  PRP Architects
Joyce Chan  HOK Architects
Meital Ben Dayan  Architype Architects
Swati Bhargava  Proxemics Design Studio, London
Marina Breves Costa  Millier Interior Design, London
Herman Calleja  Chapman BDSP and AA SED, London
Bruno Chialastri  Heatherwick Studio
Florence Collo  Director, Atmos Lab, London
Joanna Conceicao  Chapman BDSP, London
Olivier Dambron  Director, Atmos Lab, London
Melpo Danou  Boon Brown Architects
Larissa De Rosso  Building Design Partnership
Ana Dias  Mott MacDonald
Danah Dib  Foster & Partners
Ruth Dominguez  Foster & Partners
Kimmy El Dash  ZedFactory
Stathis Eleftheriadis  Price & Myer
Joy Anne Fleming Mowbray  Sedley Place Architects
Irene Gallou  Partner, Foster + Partners
Dominga Garufi  Richard Hawkes Architects
Ronak Gawarwala  HOK Architects
Nader Gebran  Nader Gebran Studio
Anastasia Gravani  Wilkinson Eyre Architects
Pablo Gugel  Atelier Ten, London
Vidhi Gupta  PRP Architects, London
Javier Guzman Dominguez  MV-BIM Consultants
Rana Hammad  Pattern Design
Mina Hasman  SOM Architects London
Amy Holtz Mathys  Director, PLP Architecture, London
Kristin Hoogenboom  Foster + Partners, London
Shashank Jain  Chapman BDSP and Studio 4215, London
Annisa Julison  Anstey Horne Consultancy
Natalia Kafassis  Senior Associate Partner, PLP Architecture, London
Eleni Kaltsoiannni  CFW Architects London
Mariam Kapsali  Architype Architects and AA SED
Georgia Katsaouni  SPPARC Architects, London
Sooseok Kim  Populous London
Ayelet Lanel  Austerlitz Architecture
Victor Lopez Riobooo-Gil  eb7 Consultancy, London
Maria Lumbreras  Atkins, Colchester
Byron Mardas  Foster + Partners and AA SED
Patricia Martin del Guayo  Shepheard Epstein Hunter
Ricardo Messano  Associate Partner, Foster + Partners, London
Jose Millan  Broadway Malyan
Juan Montoliu  Feilden Clegg Bradley Architects
Maria Chiara Multari  Da Wha Kang Design, London
Gwenned Murray  re:4m design build, Barbursville, Virginia, USA
Mileni Pamfili  Building Design Partnership BDP London
Pushkin Passey  Associate Chapman BDSP, London
Monika Passey  (nee Choudhary)  Senior Designer, Oktra, London
Pilar Perez del Real  Herriot Watt University
Kartikeya Rajput  Chapman BDSP London
Jose Ramirez  Bennetts Architects
Rodrigo Rodrigues  Aedas Architects
Rudrajit Sabhaney  Associate Partner, Foster + Partners, London
Vera Sarioglu  Arup London
Amedeo Scofone  Hillson Moran, London
Sameena Singh  WATG, London
Milena Stojkovic  Associate Partner, Foster + Partners, London.
Anjana Suresh  Urbanedge Architecture, Lincoln
Harsh Thapar  Associate, Foster + Partners, London.
Olga Tsagkalidou  Pilbrow & Partners, London
Leonidas Tsichritzis  University of Kent
Paria Tomrou  University of Thessaloniki, Greece
Pier Luigi Turco  SOM London
Laura Vasquez Bueso  AHMM Architects
Yiping Zhu  Make Architects, London.

Recent AA SED graduates abroad:

Hiroki Abe  ABE Design Group, Portland, Oregon, USA
Kanika Agarwal Mahadeewwala  Andblack Design Studio, Ahmedabad, India
May Al-Hinai  Atkins, Oman
Isha Anand  Senior Associate Morphogenesis, New Delhi, India
Elias Anka  KPF Architects, New York
Laura Apezteguia  A+E Pamplona, Spain
Carole Aspeslagh  Aspeslagh & Steyaert Architects, Brussels, Belgium
George Athanasopoulos  Own practice & construction company, Athens, Greece
Rodolfo Pedro Augspach  SDLA Sustainable Design Lab Architecture Brussels, Belgium
Priji Balakrishnan  Singapore University of Technology & Design
Nitin Bansal  Senior Associate, Morphogenesis, New Delhi, India
Zina Berrada  HCMA Architecture + Design, Vancouver, Canada
Shuraksha Bhatia  Midori Architects, Chennai, India
Tiffany Broyles  Arup, New York
Aaron Budd  Studio BUDD, Toronto & Paris
Georgina Campbell  MAAK, South Africa
Francisco Casablanca  Orsman Design, New York
Irech Castrejon  Deimel Oelschager Architekten, Berlin
Yunho Chung  Archinomics, Seoul, South Korea
Joao Cotta  Oliveira Cotta Architects Campinas, Brazil
Juanito (Jet) de la Rosa  Makati Development Corporation, Philippines
Ece Durmaz  A Tasarim Mimarlik, Ankara
Pakinam Eid  Shair & Partners, Dubai
Rania El Zouki  American University, Beirut, Lebanon
Juan Manuel Fernandez  Architect, Bogota, Colombia
Robert Fryer  Philadelphia University, USA
Rohit Garg  Populous, New Delhi, India
Hina Gazi  Imar Urban Consultants, S. Arabia
Irene Giglio  MCA Architects, Bologna, Italy
Oindrila Gosh  Singapore University of Technology
Sara Cansin Gungor  Behnisch Architekten, Munich, Germany
Piya Gupta  Morphogenesis, Delhi, India
Shanuli Gupta  Cannon Design, Mumbai, India
Benito Gutierrez Blanco  ITESM Campus, Aguascalientes, Mexico
Alexandre Hepner  Studio ARKIZ, Sao Paulo, Brasil
Alfonso Hernandez  MEDIAM Architects, Houston, Texas
Blake Jackson  Stantec, Boston, USA
Atishay Jain  AJ Studios, Jaipur, India
Aarushi Juneja  Morphogenesis, New Delhi, India
Sooseok Kim  SKA Architects & Sungkyunkwan University, South Korea
Dong Ku Kim  Hyundai, Seoul, South Korea
Mili Kyropoulou  HKS, Houston, Texas, USA
Bilge Kobas  Super Eight Collective, Istanbul, Turkey
Anneloes de Koff  Paul De Ruiter Architects, The Netherlands
Varun Kohli  HOK & Merge Studio, New York
Aimilios Kourafas  Archutopia, Dubai, UAE
Ashwini Kovithila Thazhe Veedu  Space Matrix Design Consultancy, Bangalore, India
Pavitra Lakshmi  Morphogenesis, Mumbai, India
Amy Leedham  Atelier Ten, San Francisco, USA
Kalliopi Limpou  Intrakat Construction Company, Thessaloniki, Greece
Zahraa Makke  Zstudio11 & American University of Beirut
Eleni Malaktou  University of Cyprus, Cyprus
Anne Cherian Matthew  Consulting Engineering Office, Abu Dhabi, UAE
Jenna Mikus  Eudae Group, Washington DC, USA
Humberto Mora  Escalar, Bogota, Colombia
Pulane Mpotokwane  Arup, Johannesburg, S Africa
Swastika Mukherjee  Purple Leaf Co., Beijing, China
Megha Nanaiah  Vinyas Architects & EnviArch Studio, Bangalore, India
Farah Naz  Buro Happold, UAE
Tuan Anh Nguyen  RM Studio Beijing, China
Barak Pelman  Bezalel Academy of Arts & Design Jerusalem, Israel
Shravan Pradeep  Vinyas Architects & EnviArch Studio, Bangalore, India
Rawan Qobrosi  American University of Madaba, Amman, Jordan
Omar Rabie  Auroville Earth Institute, Auroville, India
Krista Raines  Stok, San Francisco, USA
Isha Rathee  Populous, Delhi, India
Matthew Richardson  BKSK Architects, NYC, USA
Gilda Riveros  Santamaría Arquitectura-Urbanismo, Bogotá, Colombia.
Jorge Rodriguez  University of Coruna and AA SED
J.-F. Roger France  Greenarch Architects, Brussels, Belgium
Ricardo Rosa  KRIPTON Architects, Lisbon, Portugal
Andrea Rossi  MCA Architects, Bologna, Italy
Tommaso Rosso Asti Architetti, Milano, Italy
Izzati Mohamad Salim Malaysian Resources Corporation Berhad Kuala Lumpur
Pavitra Sanathkumar Pavitra Sanath Architects India & Mauritius
Danielle Severino Welsh + Major Architects, Sydney, Australia
Shruti Shiva Terra Viridis Consultancy, Hyderabad, India
Michael Smith Masis Entre Nos Atelier, San Jose, Costa Rica
Tomas Swett Browne & Swett, Santiago, Chile
Afsaneh Tafazzoli MJM Architects, Toronto, Canada
Trishta Vardhan Environmental Design Solution, Mumbai, India
Elena Vilches Alvarez ENMEDIO Studio, Seville, Spain
Marco Vitali RMArchitects, Beijing-Shanghai, China
Wan Fong Wu ZGF Architects, Seattle, USA
Boyoon Zang Korea Institute of Construction Technology, Seoul, Korea

SED MSc and MArch graduates and relatives on Graduation Day, 22 June 2018
Appendix 3  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 in 1994-95. 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 13th cycle of AA SED that started in October 2017 and due to be completed in September 2018 for the MSc and January 2019 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 School’s Jupiter File Server. MPhil and PhD Dissertations related to the programme’s areas of research are listed at the end of the Appendix.

SED 13th Cycle 2017-19

MArch Dissertations due January 2019

Tony Lahoud
Eco-communities

Khayatit Mitra
Design of Educational Buildings in Dubai

Maria Osoy Escobar
Design of Educational Buildings

Begüm Peker
Design of a Vineyard House in Atlas Village

Melissa Romo Serrano
Sustainable Housing Compound in Mexico City

Xiaonan Zhang
Skygardens for High-Rise Residential Buildings in Shenzhen

MSc Dissertations September 2018

Bálint Bakos
Timber Building Systems for Housing in Lagos

Eftychia Chatzistefanou
Refurbishment with Atria in Office Buildings in London

Mana Fana
Transitional Spaces for Residential Building Design in London

Sawant Goswami
Design Guidelines for Residential Buildings in Bhopal

Rupashi Govindarajulu
Design of Residential Buildings

Nur Kayali
Refurbishment of Residential Buildings in Istanbul

Deepak Maurya
Design Guidelines for Office Design in Delhi
Ioannis Politis
Adaptive Facades for Multi-residential Buildings in Athens

Ka Po Yung
Urban Form & Microclimate

SED 12th Cycle 2016-18

MArch Dissertations completed January 2018

Maria Luisa Arze
Diversification of the Chilean Mediagua Emergency House

Mohannad Abu Suhaiban
Microclimate Devices for Outdoor Spaces in London

Swati Bhargava (Distinction)
Courtyards and Jaalis as Environmental Strategies in Workspaces

Kanishk Bhatt
Office Design in Ahmedabad

Georgina Di Gironimo
Adaptive Living Environments in Buenos Aires

Tingting Gao
Microclimate Sensitive Design along the Thames

Daniel Ibarra Flores (Distinction)
Design for Multiple-Use Buildings in Mexico

Karthica Kalyanasundaram
Passive Design strategies for housing clusters in the Tropic

Anupa Ria Kurian
Artifice with Ambience- Eco Resort for Kerala

Pavithra Lakshmi
The House that Follows its Occupants from Chennai to Delhi

Naitikkumar Patel
Passive Design for High-Rise Residential Buildings in Dubai

Anjana Suresh
Redesign of Gandhi Street Market, Trichy

Poonam Sachdev Kaur
Redesigning the Bazaar in Mumbai

Gunveer Singh
24/7 IT Office in Delhi NCR

Deep Kiran Gala
Designing Vertical Financial Village in Mumbai.

MSc Dissertations completed September 2017

Nader Gebran
Improving Walkability in Beirut, Lebanon's hot climate
Athanasia Georgiadou
Recreational Hallways in Secondary Schools in Athens

Sara Cansin Güngör (Distinction)
Design Guidelines for New High Rise Residential Buildings

Rana Hammad
Overheating in London Housing

Borja Juncos Redondo
Solar Control & Daylighting Problems in Office Buildings

Anneloes de Koff (Distinction)
Converting Vacant Churches into Housing in the Netherlands

Maria Chiara Multari (Distinction)
Office Building Design in London

Artem Oslamovskyi (Distinction)
Settlement Proposal for the Displaced in East Ukraine Conflict

Matthew Richardson
Building Up Housing: Vertical Interventions with CLT

Doaa Salem
Daylighting in Markets

Anna Zachariadou
Conversion of Industrial Buildings to Office Buildings

SED 11th Cycle 2015-17

MArch Dissertations completed January 2017

Rafael Alonso (Distinction)
Whole-Life Carbon in Office Building Design in London

Ma Kristina Alvarez
Back to Basics: The 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
Redefining Urban Living. Strategic Design for the urban block of Buenos Aires

Paolo Flores
Design of an Educational Complex in Metro Manila

Romaissa Hadji (Distinction)
Intermediate Spaces and its Environmental Impact on Office Towers in Dubai

Varunya Jarunyaroj (Distinction)
Rethinking HDB Flat. Applicable Design of Public Housing in Singapore
Zahraa Makke (Distinction)
Design of Village for Children of War in South of Lebanon: an orphanage and a school

John Salama
Occupying Residual Spaces Under Bridges. Adaptive Multi-Use Art Hub

Shruti Shiva
Learning from the Chawl: design of low-cost social housing in Mumbai

Wan Fong Wu
Urban Synergy: Adaptive Infill Living London – Central London Prototype

MSc Dissertations completed September 2016

Angeliki Antoniou (Distinction)
Redifining 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 (Distinction)
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 (Distinction)
Daylight and Thermal Performance of Office Buildings in Ankara, Turkey

Pakinam 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
Performatice 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 Prasongsumrit (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

Irech 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 Taipei 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

Anahi 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 Polomannya
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

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MArch Completed February 2014

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 accommodation

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 Kaltsogianni (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

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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 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

**MArch February 2012**

**Priji Balakrishnan** (Distinction)
Cool Spots 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** (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)
Vernacular Ecology: Passive Strategies for Housing in Southeastern Turkey.

**Preeti Mogali** (Commendation)
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

**Therezia 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.

Efstatios Eleftheriadis.
Biology and Architecture: A new contract for sustainable solutions in the tropics

Dana Frantz-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 Linhares (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.

Jorjam 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.
Pushing the Climate Boundaries for Urban Earth-Sheltered Housing in Spain

Constanza Jorquera.
Achieving thermal comfort with passive means in a detached house central-southern Chile.

Pamela Kravetsky.

Amy Leedham (Awarded Distinction)
Re-humanizing the Hospital: Sustainable Innovations for Healthcare Architecture.

Didar Ozcelik.
Underground Indoor Rock Climbing Center, Alacati, Turkey

Jeewon Paek (Commendation for Dissertation)
Environmental Performance of Adaptive Building Envelope Design: Urban housing in Seoul, Korea

Francisco Ramirez (Commendation for Dissertation)
Modular Low Carbon “Strawcrete”: Self-Built Application for a Rural Community in South Central Chile.
Rodrigo Rodrigues.  
Dynamic Roof Structures for Retail Use: A prototype for low energy design in a temperate climate.

Fanor Serrano.  
Massive Timber Construction: An energy efficient urban infill in London.

Orapim Tantipat.  
Multi-storey housing in the tropical city, Bangkok

**MSc September 2010**

Hiro Abe.  
Learning from the Traditional Japanese House: Applying traditional techniques to contemporary houses in Tokyo.

Carole Aspeslagh  (Awarded Distinction)  

Evgenia Budanova.  
Refurbishment of industrial building into low energy residences in Moscow.

Aaron Budd  (Commendation for Dissertation)  
Environmental Diversity in Facade Design in the urban context of Toronto.

Francisco Casablanca  
Environmental Assessment of housing in Puerto Rico: The Evolution of a transplanted housing typology in an island of warm and humid climate.

Joanna Conceicao.  
Environmental Retrofits for Residential Buildings in Sao Paulo.

Cristina Crespo.  
Urban Microclimates of the old San Juan.

Melpo Danou.  
Transformations at the Street Level of Athens.

Gabriela Tristao Ferreira.  
Retrofitting of the traditional architecture of Terceira island in the Azores.

Anna Gkouma.  
The Balcony in the Greek Urban Context.

Alfonso E. Hernandez.  

Kristin Hoogenboom  (Awarded Distinction)  
Adaptively Reusing London’s Existing Industrial Fabric – Derelict to Domestic.

Shao-Fan (Eric) Hsu  
Sustainable Design Guidelines for Multi-Storey Apartments in Taipei.

Shashank Jain  (Commendation for Dissertation)  
Passive cooling through Ground Coupling: Application of Earth Air Heat Exchangers in Delhi.

Mili Kyropoulou.  
Masoudeh Nooraei.  
Design Guidelines for Low Energy Multi-Storey Housing in Tehran, Iran.

Joram Orvieto.  
Mobile and foldable house in Italy

Niken Palupi.  

Silvia Piccione.  
Energy Retrofitting of Social Housing Stock in Northern Italy.

Sameena Rajendra.  
Cooling Without Air Conditioning, Hot Dry Climate, Kuwait.

Gemala Rinaldi.  
New Guidelines for Town house in Jakarta, Indonesia

Liliana Rodriguez.  
Modifying the Urban Microclimate in Outdoor spaces to provide thermal comfort in Monterrey, Mexico

Roshanek Sajadian.  
Guidelines for Low Energy Housing in Northern Tehran

Rohin Sher.  
Sustenance Through shared Comfort – Learning From Quantifying Passive Cooling Strategies In Hot Dry Ahmedabad.

Roi Tzimika (Commendation for Dissertation)  
Exploring the thermal balance of single family detached houses in Northern Greece.

Marco Vitali (Commendation for Dissertation)  
Potential and Applicability of Mixing Concrete with Straw

Ruofan Yao.  
Passive design of detached house in the Yangtze Delta Region.

SED 4  2008-10

MArch 2010

Isha Anand.  
Contemporzing Religious Architecture.

Chanasit Cholasuek (Commendation for Dissertation)  
Sustainable Low Income Community in Bangkok.

Jose Antonio Espinoza de Tudela.  
Post Disaster Housing for Chile

Olga Maria Conto Sterling.  
Learning Environments in Informal Settlements, Colombia.

Anuja Pandit.  
Contemporary Indian Housing, Pune, India – Making use of transition spaces as social and climatic mediator.
Katerina Pantazi (Commendation for Dissertation)
Urban Metaphors: Exploring the Urban Roofscape Of Athens.

Gilda Riveros.
Urban Social Housing in Colombia.

Konstantina Saranti
Architectural Microclimatic Interventions in a Square, Patras Greece.

Milena Stojkovic
Dynamic Office Building Façade In Temperate Climate.

Alexandra Theodorou.
Accommodating Change: Housing in London

MSc 2009

Georgios Athanasopoulos. The Environment of Wineries.

Nitin Bansal (Commendation for Dissertation)
“Corbu” in the Tropics.

Floriana Calise.
The Boulder Houses on the Island of Ischia: An environmental evaluation.

Ellen Cameron.
Direct Coupling: The potential of openness for energy savings.

Monika Choudhary.
The Potential of Earth Architecture as Low Energy Design.

Yun Ho Chung.
Thermal Performance of Typical Classrooms in South Korea.

Maria Dry.
Evaluating the retrofitting of an old barrack into a library: the case study of the public library in Corfu.

Hina Gazi.
Emerging Learning Environments, UK

Polytimi Ilia.

Snigdha Jain (Commendation for Dissertation)
Impact of the built form and vegetation on the micro climate in residential sector in Delhi.

Annisa Julison:
Let the (Indirect) Sun Shine In: Daylight Retrofitting in the Courtauld’s Gallery Central Room.

Natalia Kafassis (Commendation for Dissertation)
Exploiting Adaptation and Transitions: Learning from environments beyond the boundaries of comfort.

Sharat Kaicker.
Low Energy, High Intelligence Shopping Experience in North India.

Kalliopi Limpou.
Designing Outdoors: Ephemeral & Adaptive Book Shelters in Thessaloniki, Greece.
Victor Lopez-Rioboo Gil.
Reuse of Traditional Rural Housing in Abandoned Villages in Galicia, Spain.

Viktoria Lytra.
Environmental Design and Morphogenesis.

Ricardo Messano.
Environmental Retrofitting of Office Buildings in Sao Paulo.

Alberto Moletto.
Courtyard Housing Typology in a Dense Urban Area.

Elli Papacosta.
Adaptation and Reuse of the Existing Fabric: Converting Warehouses in London.

Pushkin Passey.
Daylighting in Adjacent Spaces of Atrium Buildings.

Barak Pelman.
PER-FORM-AION: Building Form and Thermal Performance on the Israeli Coastal Plain.

Rudrajit Sabhanay (Awarded Distinction)
Bioemulation: Investigation and Application of a Biomimetic Approach to Environmental Design.

Aruna Sarkar.
Exploring The Concept Of “Passive Zone” In Warmer Climates: Case for IT offices in India.

Nicola Salis.

Parag Savla.
Transitional Spaces for Commercial Buildings in Warm and Humid Climates.

Anna Vogiatzi-Tampa (Commendation for Dissertation)
Transforming The Urban Void To An Urban Scene: The Potential For Sustainable Regeneration.

SED 3 2007-09

MArch 2009

Jorge Eduardo De Souza Hue.
Design of a Cultural Centre in Madureira, Rio De Janeiro.

Eric Blake Jackson.
Rethinking The AA Graduate School-Scheme for a Bioclimatic Live/Work Facility.

Gwenedd Murray.
Ecological Learning Centre for the Marin Academy, San Rafael, California

Lucy Ely Querales.

Ekachai Sophonudomporn.

Anya Thomas.
Gone Fishing. Self help development for low income fishing communities in Sri Lanka
MSc 2008

Mania Ampatzi.
Bioclimatic Strategies for Seaside Resorts on Greek Islands.

Leonidas Beis.
Case Study of an Electronics Megastore in Markopoulo, Greece.

Avanti Karnani.
The potential of thermal mass in school buildings in Hot Arid Climate of Aswan, Egypt.

Gangrong Lei. (Commendation for Dissertation)
Naturally Ventilated Urban Housing in Southern China.

Maria Mena D.
Dynamic Canopies: a Microclimatic Intervention for Outdoor Comfort.

Shailee Nalawade.
Passive Strategies For Multi-Storeyed Residential Housing In Pune, India.

Dipti Naphade.
Thermal Comfort in Outdoor Activity Spaces in the climate of Nagpur.

Kohei Omori.
Seeking Below Ground: Potential Of Underground Office Building In Tokyo.

Lisa Ann Pasquale (Commendation for Dissertation)
Operational Logic: Control, Behaviour and Performance Sustainment at the Eden Project.

Jorge Rodriguez Alvarez (Awarded Distinction)
Environmental Retrofit: Energy Upgrades of Urban Dwellings in a Mild Atlantic Climate.

Michael Smith-Masis (Commendation for Dissertation)
Social Housing in Costa Rica's Warm Humid Climate: Strategies and considerations for passive design.

Afsaneh Tafazzoli.
Urban Environmental Shopping Centres: Lessons from the Environmental Function of Isfahan Bazaar.

Paria Tomprou.
Flexibility and Comfort in Dancing Environments: Building and Human Envelope Responses.

Priya Vakil.
The Intelligent Skin for Office Buildings in Mumbai.

SED 2 2006-08

MArch 2008

Kanika Agarwal.
Residential Cluster Development of a Housing Community Based on the traditional pol housing.

Yasamin Arbabi.

Tiffany Broyles.
Ground UP: Defining an Architectural Typology for the Urban Farm.

Vidhi Gupta.
Rethinking “Openings and Voids” in the design of a “Quality Workspace”
Krista Murray Raines.
Rethinking the Underground Passenger Environment.

Annie Diana Babu.
A Low Energy Passenger Terminal Building for Ahmedabad Airport, India.

Lai Min-Hui.
Low Energy Row House Community in Kaohsiung (South Taiwan).

Farah Naz.
Energy Efficient Garment Factories in Bangladesh.

MSc 2007

Mathew Frankel.
Microclimate Furniture: Defining a New Urban Typology.

Surane Gunasekara.
A Study of Wellbeing: Designing an energy efficient detached micro work space.

Yuan -Chun Lan.
Dynamic Façade: A responsive skin for multi-storey apartment buildings in Taiwan.

Sachin Rastogi.
Passive and Low Energy Design Ideas for High Rise Residential Buildings in Delhi

Harsh Thapar.
Microclimate and Urban Form in Dubai.

Lydia Yiannoulopoulou.
Autonomising Community or Communising Autonomy: Seeking for an Autonomous Community.

SED 1 2005-07

MArch 2007

Giles Bruce (Commendation for Dissertation)

Haven Burkee
Comfort in the Keys: Low energy residential design in the Florida Keys.

Natalia Kokosalaki
Lightweight Stadium for Hot Climates.

Sayed Z. Majidi (Commendation for Dissertation)
Next Stop Kabul – rapid structures and climate context.

MSc 2006

Ahmed Abouzeid.
Sustainable and Informal.

Olutobi Adamolekun (Commendation for Dissertation)
Low-Income Housing in Lagos – Sustainable Techniques for Modular Construction

Joyce Chan.
Public “Living-Room” in Hong Kong
Anastasia Dretta.

Clarice Fong.
Out of the Box – Reinventing the Industrial Warehouse

Manuel Alejandro Gallardo Gonzalez.
A Prototype House for a Sustainable Small scale Development in Baja Sur, Mexico.

Varun Kohli (Commendation for Dissertation)
The New St Anthony’s School : Creating Learning Environments in the Nilgiri Hills of Southern India.

Federico Montella
Environmental Functions of a Buffer Space for a Shopping Mall.

Debra L. Raymont.
Low Income Housing – an Approach through Sustainable Design.

Vasiliki Sagia.
Double Enclosure Application for a Commercial Building in Athens, Greece.

Aadil Salim.
Outdoors-Indoors Courtyards in Kerala, India.

Sandro C. Tubertini.
Low Energy High Rise Office Buildings for Sao Paulo, Brazil

Olga Tzioti.
Redefining Libraries.

Steven Vujeva (Commendation for Dissertation)
Suburban Extensions to Single Family Detached Long Island Dwellings for Energy Efficiency.
MA Environment & Energy Studies  1995-2005

Listing is in alphabetical order by student family names. MA Dissertations marked with an asterisk (*) were awarded a Distinction or a Commendation.


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<th>MPhil / PhD</th>
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