1. **Title of the module**

ARCH5420 (AR542) – Climate

1. **School or partner institution which will be responsible for management of the module**

Kent School of Architecture

1. **The level of the module (Level 4, Level 5, Level 6 or Level 7)**

Level 5

1. **The number of credits and the ECTS value which the module represents**

15 credits (7.5 ECTS)

1. **Which term(s) the module is to be taught in (or other teaching pattern)**

Autumn

1. **Prerequisite and co-requisite modules**

Co-requisite: ARCH5520: Architecture and Landscape

1. **The programmes of study to which the module contributes**

BA (Hons) Architecture

1. **The intended subject specific learning outcomes.  
   On successfully completing the module students will be able to demonstrate:**
   1. A reasonable knowledge of the need to critically review precedents relevant to the function, organisation and technological strategy of design proposals
   2. A reasonable knowledge of the investigation, critical appraisal and selection of alternative structural, constructional and material systems relevant to architectural design
   3. A reasonable knowledge of strategies for building construction, and ability to integrate knowledge of structural principles and construction techniques
   4. A critical knowledge of the physical properties and characteristics of building materials, components and systems, and the environmental impact of specification choices
   5. A reasonable knowledge of the principals associated with designing optimum visual, thermal and acoustic environments
   6. A reasonable knowledge of the systems for environmental comfort realised within relevant precepts of sustainable design
   7. A reasonable knowledge of the strategies for building services, and ability to integrate these in a design project
   8. The necessary skills to prepare analytical and detailed technical drawings accurately illustrating environmental design solutions
   9. An ability to apply the principles of evidence-based design to the evaluation of environmental design strategies
2. **The intended generic learning outcomes.  
   On successfully completing the module students will be able to demonstrate:**
   1. An ability to generate design proposals using understanding of a body of knowledge, some at the current boundaries of professional practice and the academic discipline of architecture
   2. An ability to understand the alternative materials, processes and techniques that apply to architectural design and construction
   3. Research and analytical skills
   4. Ability to produce reports which are clear, analytical and logical covering a range of technical issues and include appropriate illustrations
   5. An ability to critically evaluate your own ideas in the context of learning
   6. An awareness of the role of research in overcoming knowledge gaps
3. **A synopsis of the curriculum**

Students will explore passive means of environmental control to achieve comfort in different climates. Vernacular precedents of passive design will be examined and distinguished from the cultural influences on design in different cultures. The concept of exterior and interior climates will be critically investigated and students will develop a good understanding of the microclimate created by cities, landscapes, groups of building and individual structures. The influence of materials, form and construction on environmental performance will be examined with reference to precedents and benchmarks. Specific techniques and methodologies for climate analysis and environmental design will be learned and applied.

The assignment concerns the development of environmental design strategies that are to be integrated appropriately into the design work of the concurrent module Architecture and Landscape. Students will demonstrate how they have provided for fresh air to move through the main building of Architecture and Landscape, as well as how they have exploited passive resources for cooling, temperature control, solar gain and the control of solar gain, both in the summer and winter and for the daytime and night-time. The integration of these into the main building of Architecture and Landscape will take heed of the functions of the spaces and their disposition and be arranged for good efficacy. Students will concisely describe the rationale of the environmental strategies and explain the operation of any technology used in realizing these strategies and illustrate this with appropriate plans and cross-sections.

1. **Reading list (Indicative list, current at time of publication. Reading lists will be published annually)**

Givoni, B. (1981). *Man, climate and architecture*. Hoboken NJ: John Wiley.  
Littlefair, P. (2011). *Site layout planning for daylight and sunlight: a guide to good practice*. Watford: BRE.  
Oke, T. R. (1987). *Boundary Layer Climates*. London; New York: Routledge.  
Szokolay, S. V. (2004, 2005). *Introduction to architectural science: the basis of sustainable design*. Oxford: Architectural Press.  
Thomas, R. (3rd Ed, 2006). *Environmental design: an introduction for architects and engineers*. London: Taylor and Francis.

1. **Learning and teaching methods**

Total contact hours: 21 hours

Private study hours: 129 hours

Total study hours: 150 hours

1. **Assessment methods**
   1. Main assessment methods

Technology and Environment Report (Environmental Strategies) (100%)

13.2 Reassessment methods

Like for like.

1. ***Map of module learning outcomes (sections 8 & 9) to learning and teaching methods (section12) and methods of assessment (section 13)***

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Module learning outcome** | 8.1 | 8.2 | 8.3 | 8.4 | 8.5 | 8.6 | 8.7 | 8.8 | 8.9 | 9.1 | 9.2 | 9.3 | 9.4 | 9.5 | 9.6 |
| **Learning/ teaching method** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **Private Study** | **X** | **X** | **X** | **X** | **X** | **X** | **X** | **X** | **X** | **X** | **X** | **X** | **X** | **X** | **X** |
| Lectures | **X** | **X** | **X** | **X** | **X** | **X** | **X** |  |  | **X** | **X** |  |  |  |  |
| Seminars / presentations | **X** | **X** | **X** | **X** | **X** | **X** | **X** | **X** | **X** | **X** | **X** |  |  |  |  |
| **Assessment method** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Technology and Environment Report | **X** | **X** | **X** | **X** | **X** | **X** | **X** | **X** | **X** | **X** | **X** | **X** | **X** | **X** | **X** |

1. **Inclusive module design**

The School recognises and has embedded the expectations of current equality legislation, by ensuring that the module is as accessible as possible by design. Additional alternative arrangements for students with Inclusive Learning Plans (ILPs)/declared disabilities will be made on an individual basis, in consultation with the relevant policies and support services.

The inclusive practices in the guidance (see Annex B Appendix A) have been considered in order to support all students in the following areas:

a) Accessible resources and curriculum

b) Learning, teaching and assessment methods

1. **Campus(es) or centre(s) where module will be delivered**

Canterbury

1. **Internationalisation**

Lectures, seminar teaching and tutorials will continue to draw on international source materials for historical and contemporary examples and theories of architecture and design.

**FACULTIES SUPPORT OFFICE USE ONLY**

**Revision record – all revisions must be recorded in the grid and full details of the change retained in the appropriate committee records.**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Date approved | Major/minor revision | Start date of the delivery of revised version | Section revised | Impacts PLOs (Q6&7 cover sheet) |
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Revised FSO Jan 2018