

1.	Programme Title	BA (Hons) Architecture
2.	Unit Title	Sustainable Design: Refurbishment and Re-use
3.	HE Level	UG 2 - FHEQ Level 5
4.	Unit Code	ARC16204
5.	Credit Value of Unit	30
6.	Unit Type	Mandatory
7.	Unit Tutor	Idrees Rasouli

8. Indicative Notional Learning Hours			
Staff – Student Contact		Independent Study Hours	
Classes (e.g. lectures, seminars and supervised group activity)	61	Independent Study (e.g. project development, reading, research and work on online forums)	46
Supervised Access to Resources	14	Preparation for Assessment	40
		Unsupervised Access to Resources	139
Total	75		225

9. Unit Introduction

This unit develops an understanding of the means for design of buildings with a high environmental performance rating.

This unit looks to accommodate new ways of structuring the pattern and complexity of work places. This necessitates a detailed investigation of building fabric and the development of a technical strategy for high-level performance.

10. Aims of the Unit

- To consider and propose architectural responses through the design of new and / or the rehabilitation of existing buildings, the flexibility of work practices and other functions to which the architecture must respond, and the creation of buildings that meet these needs.
- Recognition of the impact that changing patterns of employment, work related activity and the demographics of the workforce (e.g. home and flexible working, the growth of freelancing and childcare) are having on the design of the workplace environment.
- Introduction to issues of sustainability and the economics relating to the rehabilitation of buildings and how they are effectively re-used in contemporary cities.

11. Indicative Content

- Strategies for sustainable design;
- New Build: materiality and construction;
- Building Services and Sustainability: sound, light, heating/cooling, air quality and strategies for control;
- Workplace Organisational Structure: hierarchy and proximities.

12. Unit Learning Outcomes

In order to successfully satisfy the learning outcomes students are required to engage with the process of learning. The learning outcomes refer to developing the following attributes and must be read in conjunction with these:

GA1.1 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;

GA1.3 Understanding of the alternative materials, processes and techniques that apply to architectural design and building construction;

GA1.5 Knowledge of the context of the architect and the construction industry, and the professional qualities needed for decision making in complex and unpredictable circumstances.

Learning Outcome	Marking Criteria	
On completion of this unit students will have demonstrated:		
1. knowledge of sustainability issues relating to the environmental impact of materials, processes, resources and sources of energy; (ref: ARB/RIBA GC5.2, GC8.3)	<input checked="" type="checkbox"/> Research <input checked="" type="checkbox"/> Analysis <input checked="" type="checkbox"/> Subject Knowledge <input type="checkbox"/> Experimentation	<input checked="" type="checkbox"/> Technical Competence <input type="checkbox"/> Communication & Presentation <input type="checkbox"/> Personal & Professional Development <input type="checkbox"/> Collaborative and / or Independent Professional working
2. knowledge of the principles of passive and mechanical environmental control of buildings involved in the provision of comfort, thermal performance and energy efficiency of the building envelope; (ref: ARB/RIBA GC9.1, GC9.2)	<input checked="" type="checkbox"/> Research <input checked="" type="checkbox"/> Analysis <input checked="" type="checkbox"/> Subject Knowledge <input type="checkbox"/> Experimentation	<input checked="" type="checkbox"/> Technical Competence <input type="checkbox"/> Communication & Presentation <input type="checkbox"/> Personal & Professional Development <input type="checkbox"/> Collaborative and / or Independent Professional working
3. ability to produce a building design that integrates climate, services and energy supply systems, daylight and artificial lighting systems; (ref: ARB/RIBA)	<input checked="" type="checkbox"/> Research <input checked="" type="checkbox"/> Analysis <input checked="" type="checkbox"/> Subject Knowledge	<input checked="" type="checkbox"/> Technical Competence <input checked="" type="checkbox"/> Communication & Presentation <input type="checkbox"/> Personal & Professional Development

GC1.1, GC9.3)	<input checked="" type="checkbox"/> Experimentation or Professional	<input checked="" type="checkbox"/> Collaborative and / Independent working
4. ability to respond to a broad and divergent constituency of interests and to the social and emergent ethical concerns related to a brief. (ref: ARB/RIBA GC1.3, GC4.1, GC5.1, GC6.3, GC7.3)	<input checked="" type="checkbox"/> Research Competence <input type="checkbox"/> Analysis <input type="checkbox"/> Subject Knowledge Professional <input checked="" type="checkbox"/> Experimentation or Professional	<input type="checkbox"/> Technical <input checked="" type="checkbox"/> Communication & Presentation <input checked="" type="checkbox"/> Personal & Development Collaborative and / Independent working

Please see the Project Brief for a more detailed explanation of the relationship between learning outcomes and marking criteria.

13. Learning and Teaching Methods

This unit will be delivered using a combination of:

- Briefings
- Lectures
- Project work
- Seminars
- Workshops
- Group work
- Online activity
- Individual Presentations and critiques
- Group presentations and critiques
- Self-directed independent study
- Other (describe below):
- Research Visits
- Site Visits

14. Assessment

Indicative Assessment Tasks

Produce a design proposal for mixed-use development through the design of a new building or the refurbishment and enhanced performance of the fabric of an existing building, to include:

1. An environmental proposal for:
 - passive and mechanical control of buildings with particular reference to the provision of comfort;
 - lighting of a retail space;

- a report of 2000 words max. justifying services choices
2. An interior design strategy satisfying the needs and aspirations of a defined community of building users;

Assessment Structure

This unit is assessed holistically (100% of the unit).

All learning outcomes must be achieved to pass this unit.

15. Reading and Resource List

Anderson, M & P. Anderson (2006) *Prefab Prototypes* New York: Princeton Architectural Press;

Cramer, J. (2007) *Architecture in Existing Fabric: Planning, Design and Building* Basel Berlin Boston: Birkhäuser.

De Bono, E. (2010) *Lateral Thinking : Handbook for Creativity*, London: Penguin

Diller, E. & R. Scofidio (2002) *Blur: The Making of Nothing* New York: Harry N. Abrams Inc.

Hascher, R, S. Jeska & B. Klauck (2002) *Office Building: A Design Manual* Basel Berlin Boston: Birkhauser;

Hegger, M. (2008) *Energy Manual: Sustainable Architecture* Basel Berlin Boston: Birkhauser;.

Jencks, C & K. Kropf (2008) *Theories & Manifestoes of Contemporary Architecture* Chichester: Wiley Academy;

Schittich, C. (2003) *Building in Existing Fabric* Basel Berlin Boston: Birkhauser;;

Scott, Fred (2007) *On altering architecture*. London & New York: Routledge.

Further Reading and Resources

Further reading and resources will be identified in your Unit Handbook / Project Brief.