



Department of Architecture

Course: Sustainable Building Conservation
Instructors: Atri Mishra

Class: 1st Yr M. Arch II Sem A.Y. 2017-18
Internal Assessment: 50
External Theory Exam: 00
Total Marks: 50
Credits:

Contact Periods/ week: 03 periods, 3(Theory),

Time Table:

Attendance: Min 75%

Min. Passing Marks: 40% each in Internal & External Assessment, 50% in Aggregate

Objective: Students are introduced to the principles of environmental design, key legislative frameworks and relevant methods of energy assessment in an old building and why and how conservation is one of steps towards sustainability.

Out Line of the Course: The module sets out to establish and question an understanding of the role of the built heritage sector at a global and a local level. The module addresses complex challenges posed by calls for reduced energy demand within historic Buildings. Potential upgrades can challenge the defence of heritage value against future energy performance. Practitioners and managers are required to balance the risk of loss of historic material against future estimations of improved performance. The module presents reductions justified in currencies of carbon as well as cost. The delivery of more efficient services, changes of use and the incorporation of renewables are explored as offering alternative or additional strategies.

LECTURE PLAN

S. No.	Week	TOPIC OF CLASS LECTURE & DISCUSSION	CLASS ACTIVITIES & ASSIGNMENTS
1	Week 1	Comparative philosophies of conservation Ethics and dilemmas of conservation: designations, multiple significances	LECTURE
2	Week 2	Economic dilemmas: World heritage people buildings, tourism History and hierarchy of the Conservation Movement, UNESCO, Global and Local frameworks Marketing Heritage: Proving the value of identity Participating in global professional networks	LECTURE
3	Week 3	Researching historic buildings: Desktop Analysis Techniques of recording and measurement: On-site Analysis Detailed Assessment: Identifying the vernacular, patterns and trends vs universal standards	LECTURE
4	Week 4	Building Pathology: Damp, rot, decay: Breathability, membranes and repair Intervention and Maintenance: Technical dilemmas: Consultation and finding specialists.	LECTURE
5	Week 5	Introduction to basic concepts of building physics Installation and assessment of services in an existing building	LECTURE

6	Week 6	Renewable energy and historic buildings Traditional and low carbon materials relevant to thermal upgrades of historic buildings Monitoring and analysis of environmental comfort and energy use	LECTURE
7	Week 7	Whole Life Cycle Costing and Analysis	ASSESSMENT-I (30%)
8	Week 8	Hygrothermal software and monitoring workshops Case studies illustrating challenges and pitfalls	LECTURE
9	Week 9	Welsh Domestic Architecture Religious and Institutional Architecture	LECTURE
10	Week 10	Welsh Industrial Landscapes Case study: live project of choice	LECTURE
11	Week 11	presentation by students on the selected building and there proposed uses.	ASSESSMENT-II (30%)
12	Week 12	Conservation of domestic buildings, their reuse and the insertion of new elements.	LECTURE
14	Week 13	Conservation and repair of modernist buildings Conservation and repair of historic churches and chapels	LECTURE
13	Week 14	Conservation of historic townscapes, Conservation Areas within the necessary coherence of development.	LECTURE
15	Week 15	Conservation of landscapes, national parks, woodlands and gardens, as cultural environments.	LECTURE
16	Week 16	written test	ASSESSMENT-III (40%)

S.No.	Category of Evaluation	Marks	Note
1	Assessment – I:	15	<i>The Marks allotted at each stage is tentative. Categories of evaluation may be increased or decreased (merged) on need-basis</i>
2	Assessment – II:	15	
3	Assessment – III:	20	

References:

1. Architectural Heritage Fund, (2000). Funds for Historic Buildings: A directory of sources.
2. Benton, T. (ed) Understanding Heritage and Memory
3. English Heritage (2011) Stopping the Rot: A Guide to Enforcement Action to Save Historic Buildings <http://www.english-heritage.org.uk/publications/stoppingtherot>
4. ICOMOS charters: Athens 1931, Venice 1964, Burra 1999 <http://www.icomos.org/en/charters-and-texts>
5. Jokilehto, J. (1999) A History Of Architectural Conservation, Butterworth – Heinemann
6. Berry, R W. (1994). Remedial treatment of wood rot and insect attack in buildings. BRE.
7. ICCROM 1993 http://www.iccrom.org/pdf/ICCROM_17_RiskPreparedness_en.pdf
8. ICOMOS (1990). Guide to Recording Historic Buildings. Butterworth
9. ICOMOS (1990). Manual on Research and Recording Historic Buildings. Butterworth
10. ICOMOS (1996) Principles for the Recording of Monuments, Groups of buildings and Sites. <http://www.international.icomos.org/charters/charters.pdf>

11. ICOMOS Scientific Committee for Energy and Sustainability: <http://isces.icomos.org/>
12. --- (2013), 'Energy Efficiency and Historic Buildings, Advice for Domestic Energy Assessors and Green Deal Advisors'.
13. --- (2008), 'Conservation Principles, Policies and Guidance for the Sustainable Management of the Historic Environment ', in Paul Drury, McPherson, Anna (ed.), (London: English Heritage).
14. English Heritage (2008), 'Climate Change and the Historic Environment ', (English Heritage).
15. Ramesh, T., Prakash, Ravi, and Shukla, K. K. (2010), 'Life cycle energy analysis of buildings: An overview', Energy and Buildings, 42 (10), 1592-600.
16. UNESCO (2013), 'Hangzhou Declaration: Placing Culture at the Heart of Sustainable Development Policies', in UNESCO (ed.), (Hangzhou, China).
17. World Heritage Committee (2012 Thirty-sixth session), 'Decision 36 COM 5C – Developing a proposal for the integration of a sustainable development perspective within the processes of the World Heritage Convention ', in SCIENTIFIC AND CULTURAL ORGANIZATION UNITED NATIONS EDUCATIONAL (ed.), CONVENTION CONCERNING THE PROTECTION OF THE WORLD CULTURAL AND NATURAL HERITAGE (Saint Petersburg, Russian Federation).
18. Turan M (ed) (1990) Vernacular Architecture: Paradigms of Environmental Response
19. Teutonico J M & Matero, F (2003) Managing Change: sustainable approaches to the conservation of the built environment
21. McCaig, Iain. 2013. Practical building conservation: conservation basics. Farnham: English Heritage/Ashgate.
22. McCaig, Iain, and Brian Ridout. 2012. Practical building conservation: Timber. Farnham: Ashgate.
23. Historic England 2012. Practical building conservation Stone. Farnham: Ashgate

Signatures of the Instructors:

Head of the Department: