Local Solutions to Global Challenges – The Focus on ‘Green Buildings’ (Working in Liverpool’s Living Lab)

IEEL010  5 credit module (equivalent to 2.5 ECTS)

1. Module Leader

Adam Mannis

Biography

Adam Mannis teaches interdisciplinary urban sustainable development, and has been involved in research and development on the topic since graduating in 1992. He has specific expertise in aspects of green buildings and eco-cities, linked to urban regeneration, enhancements of the built environment and community planning. Adam has developed such knowledge and understanding through relevant experiences in universities, local government and private industry, involving collaborations across multiple disciplines and between cityscapes (nationally and internationally). He is keen to share all of this with students on the International Summer School at the University of Liverpool, and by showcasing examples of green buildings in the city.

2. Module Description

The Global Challenge of Green Buildings can be defined as ensuring that shelter (e.g. housing, offices, etc.) makes efficient use of energy, water and other resources to minimise their impact on the environment, as well as engages local communities in the planning and use of such buildings. This module focuses on that 21st century issue, which has been explicitly recognised in the United Nation’s Sustainable Development Goals 2030. Using a ‘living lab’ approach, we will take advantage of locally available resources in the University, neighbouring Knowledge Quarter area, and Liverpool City Region. Seminars will provide the background to the projects that we are visiting, instruction in the skills we need to take advantage of during visits, and a discussion of the learning outcomes/objectives of each visit. Students will be given a structured question set for each visit to ensure that they take full advantage. Students will have the opportunity to interact with and interview members of the broader community, including leaders of communities, businesses, educators and other practitioners.

As well as acting as a standalone module, this module supports and extends the work covered in Module IEEL009, The Global Challenge of Green Buildings.

3. Module Aims

This module aims:

- Using active learning approaches and structured interview on visits, to evaluate the tangible societal/environmental/financial impacts of green building/sustainability challenges.
- To compare green building initiatives in Liverpool with similar initiatives in the students’ own countries.
- To reflect upon the lessons learned from the different green buildings related projects that are visited in Liverpool.
- To develop confidence in understanding and communicating complex ideas.
- To improve skills in research and collaborative learning.
4. Content

The following topics will be considered on the module:

- Examination and evaluation of a real world sustainability plan and associated estates strategy
- Green building technologies
- Urban greening proposals
- Energy/resource efficient projects
- Planning for green buildings within a city/neighbourhood masterplan
- Design and construction of green buildings
- Visits to exemplar projects
- Developing and conducting structured interviews
- Logging, blogging and vlogging

5. Module Structure

The module will be delivered over a three-week period in two weekly sessions. The first weekly session (2 hours) will take the form of an introduction to the theme of the week and a briefing seminar. The second session (4 to 6 hours) will involve a visit to a Green Buildings related project in Liverpool city environment. In total, there will be 18 to 24 hours of contact time on the module.

In addition, it is expected that students will spend up to 26 study hours outside of classroom contact hours on activities including assigned reading, optional reading of areas of personal interest, homework tasks, web research and preparation for assessment and upcoming seminars.

6. Teaching Methods

The teaching approach will include the following:

- Seminars
- Outside study visits

7. Assessment

Assessment will be by:

- Individual Reflective Log (worth 75% of the overall mark)
- Group Presentation (worth 25% of the overall mark)

Standard University policies apply with regard to late submission of assessments. There is no re-assessment opportunity.

8. Course Structure

The indicative schedule is as follows:

Session One (in Week 1):

Seminar
Skills development in the area of structured interviews, logging, blogging and vlogging. Analysis of the University of Liverpool’s Sustainability Plan and associated Estates Strategy, looking particularly at green building technologies, urban greening proposals and energy/resource efficient projects.

Session Two (also in Week 1):
**Workshop Visits**
Beginning at home: Structured visits to a range of University and community based projects. Meetings with the Green Guild group, and also the Housing and People Building Communities team.

**Session Three (in Week 2):**
*Seminar*
Introduction to and analysis of related projects about planning for green buildings within a city and the neighbourhood masterplan.

**Session Four (also in Week 2):**
*Workshop Visits*
External visits to at least two of the following:
- The Materials Innovation Factory
- The Everyman Theatre
- Alder Hey Children’s Hospital
- Peel Holdings Liverpool Waters project.

**Session Five (in Week 3):**
*Seminar*
Design and construction of green buildings with a focus on reducing, redistributing and recycling resources, community/end user engagement strategies and sustainable urban regeneration.

**Session Six (also in Week 3):**
*Workshop Visits*
External visit to specific elements of the newly constructed Royal Liverpool and Broadgreen University Hospital Trust project, demonstrating green building implementation in-action on a live site.

9. **Learning outcomes**

On completion of this module, students will be able to:

<table>
<thead>
<tr>
<th>Learning Outcome</th>
<th>Assessment component which assesses this learning outcome</th>
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<tbody>
<tr>
<td>Demonstrate the ability to develop and evaluate a research project</td>
<td>Individual reflective log (task one)</td>
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<td></td>
<td>Group presentation (task two)</td>
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<tr>
<td>Demonstrate the ability to communicate scientific information to a mixed/ varied audience</td>
<td>Group presentation (task two)</td>
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<tr>
<td>Work individually to complete a piece of work (reflective log)</td>
<td>Individual reflective log (task one)</td>
</tr>
<tr>
<td>Work collaboratively to produce a piece of work based on research (group presentation)</td>
<td>Group presentation (task two)</td>
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<tr>
<td>Understand more fully the issues underlying the Global Challenge of ‘Green Buildings’</td>
<td>Individual reflective log (task one)</td>
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<tr>
<td></td>
<td>Group presentation (task two)</td>
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10. **Skills**

Key skills that will be developed:
<table>
<thead>
<tr>
<th>Skill</th>
<th>How this skill is developed</th>
<th>Mode of assessment</th>
</tr>
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<tbody>
<tr>
<td>Teamwork</td>
<td>Developing the group presentation and other group projects throughout the course</td>
<td>Group presentation (task two)</td>
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<tr>
<td>Communication</td>
<td>Through individual personal reflections; as well as orally in group discussions, activities and tasks in class</td>
<td>Individual reflective log (task one) Group presentation (task two)</td>
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<tr>
<td>Synthesising of complex information</td>
<td>Through individual personal reflections; as well as orally in group discussions, activities and tasks in class</td>
<td>Individual reflective log (task one) Group presentation (task two)</td>
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11. Books, ebooks and websites:

The University Website at [www.liv.ac.uk/library](http://www.liv.ac.uk/library) provides access to many relevant books and electronic books, as well as academic journals and databases.

**Recommended Pre-Course Reading**

- Liverpool City Council (2015) *Mayor of Liverpool’s Commission on Environmental Sustainability*
  

- University of Liverpool (2016) *Environmental Sustainability Report 2015/16*
  
  [https://www.liverpool.ac.uk/media/livacuk/sustainabilitynew/documents/Annual_Report_v2.pdf](https://www.liverpool.ac.uk/media/livacuk/sustainabilitynew/documents/Annual_Report_v2.pdf)

**Core Texts**

  
  [http://library.uniteddiversity.coop/Ecological_Building/Green_Building-Guidebook_for_Sustainable_Architecture.pdf](http://library.uniteddiversity.coop/Ecological_Building/Green_Building-Guidebook_for_Sustainable_Architecture.pdf)

  

**Useful Websites**

- United Nations – *UN Sustainable Development Goals 2030*
  

- Wikipedia – *Sustainable Development Goals*
  