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

IEEL008  5 credit module (equivalent to 2.5 ECTS)

1. Module Leader

Iain Young

Biography.
Iain Young’s research focuses on the mechanisms underlying growth and development of fish and other aquatic animals, understanding the impact of environment, husbandry practices, nutrition and diet to improve fish yield and quality, improve sustainability of production, minimise environmental impact and improve welfare. He actively promotes cross-disciplinary approaches to address sustainability challenges, particularly those associated with food security and urban living. Iain works with third sector organisations and social enterprises to promote healthy eating, local food production, urban farming and healthy eating. He is proud to be a non-executive director of Farm Urban – a social enterprise providing education, skills and technology to bring communities together and encourage sustainable urban living.

2. Module Description

Global Food Security can be defined as when all people, at all times, have physical and economic access to sufficient, safe and nutritious food to meet their dietary needs to sustain an active and healthy life. This module focuses on the Global Food Security Challenge. Using a living lab approach, we will take advantage of the locally available resources in the University, Knowledge Quarter 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 the visit 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 social enterprises, businesses, educators and other practitioners.

As well as acting as a standalone module this module supports and extends the work covered in Module IEEL007, The global Challenge of Food Security.

3. Module Aims

This module aims:
- Using active learning approaches and structured interview on visits, to evaluate the tangible societal/environmental/financial impacts of food security/sustainability challenges.
- To compare food security initiatives in Liverpool with similar initiatives in the students’ own countries.
- To reflect upon the lessons learned from the different food security related projects.
- 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
• Food waste recycling
• Anaerobic Digestion proposals
• Sustainable feed projects
• Developing and conducting structured interviews
• Logging, blogging and vlogging
• Food security and food waste
• Waste reduction
• Food distribution
• Efficient shopping
• Visits to exemplar projects

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 (4-6 hours) will involve a visit to a sustainable-food related project in the Merseyside region. There will be a total of 18 -24 hours contact time.

In addition, it is expected that students will spend up to 26 study hours outside of the 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:
• Seminar
• 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:**

*Seminar*
Skills development in the area of structured interviews, logging, blogging and vlogging. Analysis of the University of Liverpool Sustainability plan, looking particularly at food waste recycling. Anaerobic digestion proposals and sustainable feed projects.
Session Two: 
*Workshop*
Beginning at home: a visit to the Guild roof garden, rocket composter, aquaponics farm, sustainable growing walls, CTH garden, Bit club food outlet and agile cycle delivery service. Meeting with the Guild Green Team.

Session Three: 
*Seminar*
Introduction to and analysis of related projects at Ness Gardens, the University’s botanic gardens

Session Four: 
*Workshop*
External visit to Ness Gardens to experience Farm Urban agriculture and aquaponics, sustainable grasslands, the climate change project the Hugenkulture project and Biomass and composting projects.

Session Five: 
*Seminar*
A discussion of food security and food waste focussing particularly on waste reduction, recycling and redistribution, the distribution of food, efficient shopping and food waste to energy projects.

Session Six: 
*Workshop*
External visit to one of the following (visit subject to availability)
- Re-food Runcorn which recycles food waste from around the Liverpool area to make biogas and soil treatments
- Farm Urban Liverpool UTC projects, including vermilfiltration, black soldier fly composting, biomass generation and squash nutrition.

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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</thead>
<tbody>
<tr>
<td>Demonstrate the ability to develop and evaluate a research project</td>
<td>Group presentation</td>
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<tr>
<td></td>
<td>Individual reflective log</td>
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<tr>
<td>Demonstrate the ability to communicate scientific information to a mixed/varied audience</td>
<td>Group presentation</td>
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<tr>
<td>Work individually to complete a piece of work (reflective log).</td>
<td>Individual reflective log</td>
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<tr>
<td>Work collaboratively to produce a piece of work based on their research (group presentation).</td>
<td>Group presentation</td>
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<tr>
<td>Understand more fully the issues underlying the Global Challenge of food security</td>
<td>Group presentation</td>
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<td></td>
<td>Individual reflective log</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>
</thead>
<tbody>
<tr>
<td>Teamwork</td>
<td>Developing the group presentation and other group projects throughout the course</td>
<td>Group presentation</td>
</tr>
<tr>
<td>Communication</td>
<td>Orally in group discussions, activities and tasks in class</td>
<td>Group presentation</td>
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</tbody>
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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

PRINT ISBN 9780745648088
EBOOK ISBN 9780745659299

#### Core Texts

**None**

#### Useful Websites

- [http://www.farmurban.co.uk/](http://www.farmurban.co.uk/)
- [https://www.bbc.co.uk/education/guides/zf6fr82/revision](https://www.bbc.co.uk/education/guides/zf6fr82/revision)