

2021

## Level 9 CPD Module Educating for Food Sector Sustainability

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**Authors**

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## M1: Module Descriptor Template

Module Code	Pre-requisite Module codes	Co-Requisite Modules code(s)	ISCED Code	Subject Code	ECTS Credits	NFQ Level (CPD)#
TBC	NA	NA			5	9
<b>Module Title</b>	Educating for Food Sustainability					

This Header should be repeated on each page of the Module

<b>School Responsible:</b>	Food Science and Environmental Health
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**TÁ LEAGAN GAEILGE DEN FHOIRM SEO AR FÁIL / AN IRISH LANGUAGE VERSION OF THIS FORM IS AVAILABLE**

<b>Module Overview:</b>
<p>In response to SDG 4.7, which requires learners acquire knowledge and skills for sustainability, this module addresses a gap identified by the National Strategy on Education for Sustainable Development in the 'preparedness of lecturers to facilitate the type of participatory learning' associated with balancing social and economic well-being with Earth's ability to replenish its natural resources.</p> <p>For food-sector educators committed to embedding sustainability in their academic practice, this module aims to develop a community of practice, comprising faculty, students, industry and community that can support authentic and transformative living-lab experiences for a sustainable future of our food systems.</p> <p>Deploying inquiry-based, evidence-based and action-learning approaches, this module focuses on addressing future-of-food issues within a holistic framework informed by the 4 Cs of culture, campus, curriculum and community as a means for transforming food-sector higher education.</p>

<b>Learning Outcomes (LO):</b> (to be numbered)	
For a 5ECTS module a range of 4-10 LOs is recommended	
On Completion of this module, the learner will be able to	
<b>1</b>	Demonstrate their transformation in sustainability literacy - knowledge, skills and mindsets to become deeply committed to building a sustainable future.
<b>2</b>	Demonstrate their transformation in sustainability literacy - knowledge, skills and mindsets to become deeply committed to building a sustainable future as related to the Food sector.
<b>3</b>	Critically appraise sustainability-related exemplars of curriculum design, pedagogical approaches and assessment strategies that inform the design and implementation of transformative learning 'interventions' to create cognitive, affective and behavioural learning opportunities.
<b>4</b>	Apply design-thinking to the food sector systems, premised on collaborative experimentation that integrates stakeholders as co-creators of food sustainability knowledge.
<b>5</b>	Co-create an evidence-based framework to support the design, implementation, impact-measure and durability of learning 'interventions' in food-related disciplines for achievement of the SDGs.
<b>6</b>	Explore fundamental questions about the purpose of higher education in building embedded pathways though curricular, co-curricular and informal curriculum for life-long sustainability.

<b>Indicative Syllabus:</b>
Indicative syllabus covered in the module and / or in its discrete elements
<b>An introduction to Sustainable Development:</b> What is sustainable development? Role of Higher Education in Sustainable. The UN Sustainable Development Goals – An Interdisciplinary Perspective. The UN's Sustainability Literacy Test [LO1, LO6]
<b>Sustainability Literacy:</b> Carbon Cycle & Climate Change. Natural Resources. Life-Cycle Analysis. The Circular Economy. Basic Rights - zero hunger, water and sanitation and poverty reduction. Sustainable Cities – the built environment, transportation and urban resilience. Human Potential – quality education, good health, decent work and quality [LO1, LO2]
<b>Educating for Food Sustainability:</b> Sustainable Food Systems. Policy and Practice. Paths to Sustainable Diets. HALF Index. Nutrition and Health. The Bio Economy. Food Waste. Farms Systems, Ecology & Food Security. Oceans and Fisheries. Environmental Threats to Food Systems. Food Governance. Biodiversity. The World's Water Resource [LO2, LO4]
<b>Education for Sustainable Development:</b> Development. University SDG Commitments. Measurement and Reporting Frameworks. Curriculum Design for Sustainable Development. The Evolving Policy Landscape. Campus Management, Operations and Governance. Living Lab Approaches. Pedagogy for Sustainability Learning [LO3, LO4, LO5, LO6]

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### Learning and Teaching Methods:

The module places a strong emphasis on peer-teaching and includes flagship webinar events delivered by the experts across TU Dublin. Where appropriate, guest lectures from the food-sector and sustainability communities will present important and contemporary topics aligned to course content.

Design-based learning will be fundamental to the more interactive workshops in which participants along with their students and other academic programme stakeholders will be facilitated in a design thinking process to co-create a future-oriented food curriculum aligned to the sustainable development goals. A strong evidence-based approach underpins this module, in which its curriculum is informed by the latest scientific evidence and policy formulation in education for food sustainability. In line with the partnership approach to SDG implementation, this module takes account of expertise across TU Dublin for co-delivery. In particular, delivery encompasses a partnership between the School of Food Science, & Environmental Health, the LTTC and various sustainability experts from across TU Dublin.

For delivery, the module comprises three broad content areas: [1] sustainability literacy, [2] food-sector sustainability and [3] education for sustainability. For each area, six pre-recorded re-usable webinars, approximately 30 minutes in duration, delivered by peers will be supplemented by live webinar events by guest-speakers. Three flagship workshops, encompassing the representative stakeholders of the School of Food Science & Environmental Health, will be facilitated using a design thinking methodology to map existing curriculum to the SDGs, to identify opportunities for enhancement in the curriculum and to provide learner experience of living-lab approach to innovating solutions to complex food-sustainability problems, co-creating a future-oriented food sustainability curriculum in the process. Tutorials to support sustainability literacy, reflective practice, curriculum design, strategic planning and design thinking will be provided.

Pre-Recorded Online Webinars: 18 Sessions x 30 Minutes	9 Hrs
Tutorials: 3 x 1 Hours	3 Hrs
Peer and Guest Lecturers 12 Sessions x 30 Minutes	6 Hrs
Co-Create Workshops 3 x 3 Hours	9 Hrs
<b>Total Teaching Contact Hours</b>	27
<b>Total Self-Directed Learning Hours</b>	73

### Module Delivery Duration: One Semester

Indicate if the module is normally delivered over one semester or less, or over one academic year etc.

### Assessment

Assessment Type	Weighting (%)*	LO
<b>SULITEST:</b> Participants will complete the Sustainability Literacy Test twice and be assessed on their post-completion reflection to evaluate transformation. Indicative assignment guidelines and marking handbook.	20	1, 2
<b>Reflective Journal:</b> Participants will record a reflective journal, detailing their learning journey through the various webinars and workshops. Indicative assessment guidelines and marking rubric included in student handbook.	30	1, 2, 3, 4, 5, 6
<b>Workshop Artefacts:</b> Participants will partake in team workshops with School stakeholders, mapping curriculum to the SDGs, identifying opportunities for change and undertaking a short design project that addresses a food sustainability problem. Workshop artefacts will include low-resolution designs – such as flip-chart posters, mind-maps, videos or podcasts or presentations.	30	1, 2, 3, 4, 5, 6
<b>Amended Module or Course Descriptor:</b> Participants are required provide an amended module descriptor and learning resources for one of their modules and to evaluate them using TU Dublin's sustainability curriculum interrogator.	20	2, 4, 5, 6
*Weighting indicative of time and effort. Grading for this module is Pass / Fail.		

### Module Specific Assessment Arrangements (if applicable)

(a) Derogations from General Assessment Regulations	Pass/Fail assessment
(b) Module Assessment Thresholds	
(c) Special Repeat Assessment Arrangements	Coursework can be re-submitted for reassessment

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### Recommended Resources

Lawrence, M. and Friel, S. (Eds.). (2019). *Healthy and Sustainable Food Systems*. Routledge.

### Policy Reports

European Commission (2019) Farm to Fork Strategy: For a Fair, Healthy and Environmentally Friendly Food System. Available at: [https://ec.europa.eu/food/sites/food/files/safety/docs/f2f\\_action-plan\\_2020\\_strategy-info\\_en.pdf](https://ec.europa.eu/food/sites/food/files/safety/docs/f2f_action-plan_2020_strategy-info_en.pdf)

FABLE (2020) Pathways to Sustainable Land-Use and Food Systems. Sustainable Development Solutions Network, Mountain View, CA.

Government of Ireland (2014). Education for Sustainability. The National Strategy on Education for Sustainable Development in Ireland. Available at: <https://www.education.ie/en/Publications/Education-Reports/National-Strategy-on-Education-for-Sustainable-Development-in-Ireland-2014-2020.pdf>

Government of Ireland (2018). The Sustainable Development Goals National Implementation Plan 2018 -2020, DCCAE. <https://www.dccae.gov.ie/en-ie/environment/topics/sustainable-development/sustainable-development-goals/Pages/National-Implementation-Plan-2018---2020.aspx>

Government of Ireland (2019). Climate Action Plan to Tackle Climate Breakdown, DCCA. Available at: <https://assets.gov.ie/10206/d042e174c1654c6ca14f39242fb07d22.pdf>

QAA (2014) Education for sustainable Development: Guidelines for UK Higher Education Providers. Higher Education Academy and UK QAA.

SDSN (2020) Accelerating Education for the SDGs: A guide for Universities, Colleges and Tertiary & Higher Education Institutions. Sustainable Development Solutions Network, Mountain View, CA.

UN (2020) The State of Food Security and Nutrition in the World: Transforming Food Systems for Affordable and Healthy Diets. Food and Agriculture Organisations of the United Nations.

### Recommended Articles

Alexander, P, Brown, C, Arneith, A, Finnigan, J & Rounsevell, M 2016, 'Human appropriation of land for food: The role of diet', *Global Environmental Change*, vol. 41, pp. 88-98.

Andrews, D. (2015). Circular Economy, Design Thinking & Education for Sustainability. *Local Economy*, 30(3).

Brundtland, G.H., Khalid, M., Agnelli, S. Al-Athel, S., Chidzero, B. (1987) "Our Common Future", *World Commission on Environment and Development*, New York.

Favaloro, T., Ball, T., & Lipschutz, R. D. (2019). Mind the Gap! Developing the Campus as a Living Lab for Student Experiential Learning in Sustainability. *In Sustainability on University Campuses: Learning, Skills Building and Best Practices* (pp. 91-113). Springer, Cham.

Hamilton, H., 2013. Sustainable food lab learning systems for inclusive business models worldwide. *International Food and Agribusiness Management Review*, 16(1030-2016-82964), pp.33-38.

Wiek, A. Withycombe, L., Redman L.C. (2011). "Key Competencies in Sustainability: A Reference Framework for Academic Program Development.", *Sustainability Science*, Vol. 6, pp. 203-18, 2011.

Garnett, T. (2013). "Food Sustainability: Problems, Perspectives and Solutions". *Nutrition Society*, 72(1), 29-39.

Middlecamp, C., and Bryan, T. (2020). Campus as Living Laboratory for Sustainability: Food. *In Chemistry Education for a Sustainable Society Volume 2: Innovations in Undergraduate Curricula* (pp. 33-45).

<b>Version No:</b>		<b>Amended By</b>	
<b>Commencement Date</b>		<b>Associated Programme Codes</b>	

# Modules that are to be offered as Stand-Alone CPD Programmes must have an NFQ level assigned

\*Details of the assessment schedule should be contained in the student handbook for the programme stage.

**Date of Academic Council approval .....**