Transforming Learning

NTU TORR

Sustainable Higher Education Futures

Curriculum Framework

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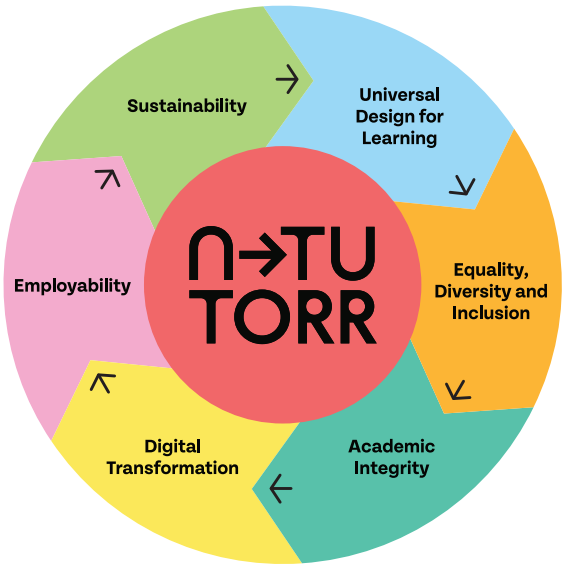
Introduction

“Sustainable development” can be defined as “an aspirational ongoing process of addressing social, environmental, and economic concerns to create a better world”.



In an educational context, this relates to SDG 4.7 which sets the following target:

> “By 2030 ensure all learners acquire knowledge and skills needed to promote sustainable development, including among others through education for sustainable development and sustainable lifestyles, human rights, gender equality, promotion of a culture of peace and non-violence, global citizenship, and appreciation of cultural diversity and of culture’s contribution to sustainable development.”

UNESCO (2021) defines Education for Sustainable Development (ESD) as:

> “ESD empowers learners with the knowledge, skills, values, and attributes to take informed decisions and make responsible actions for environmental integrity, economic viability, and a just society empowering people of all genders, for present and future generations, while respecting cultural diversity. ESD is a lifelong learning process and an integral part of quality education that enhances cognitive, social, and emotional and behavioural dimensions of learning. It is holistic and transformational and encompasses learning content and outcomes, pedagogy, and the learning environment itself.”

The Framework will seek to address education for sustainability by embedding sustainability and the SDGs within the curriculum and to address the **UNESCO key Competences for Sustainability** and the **EU Green Competency Framework (GreenComp)**.

The UNESCO key competences for sustainability include

- systems thinking competency,
- anticipatory competency (futures thinking),
- critical thinking competency,
- strategic competency,
- collaborative competency,
- integrated problem-solving competency,
- self-awareness competency and
- normative competency.

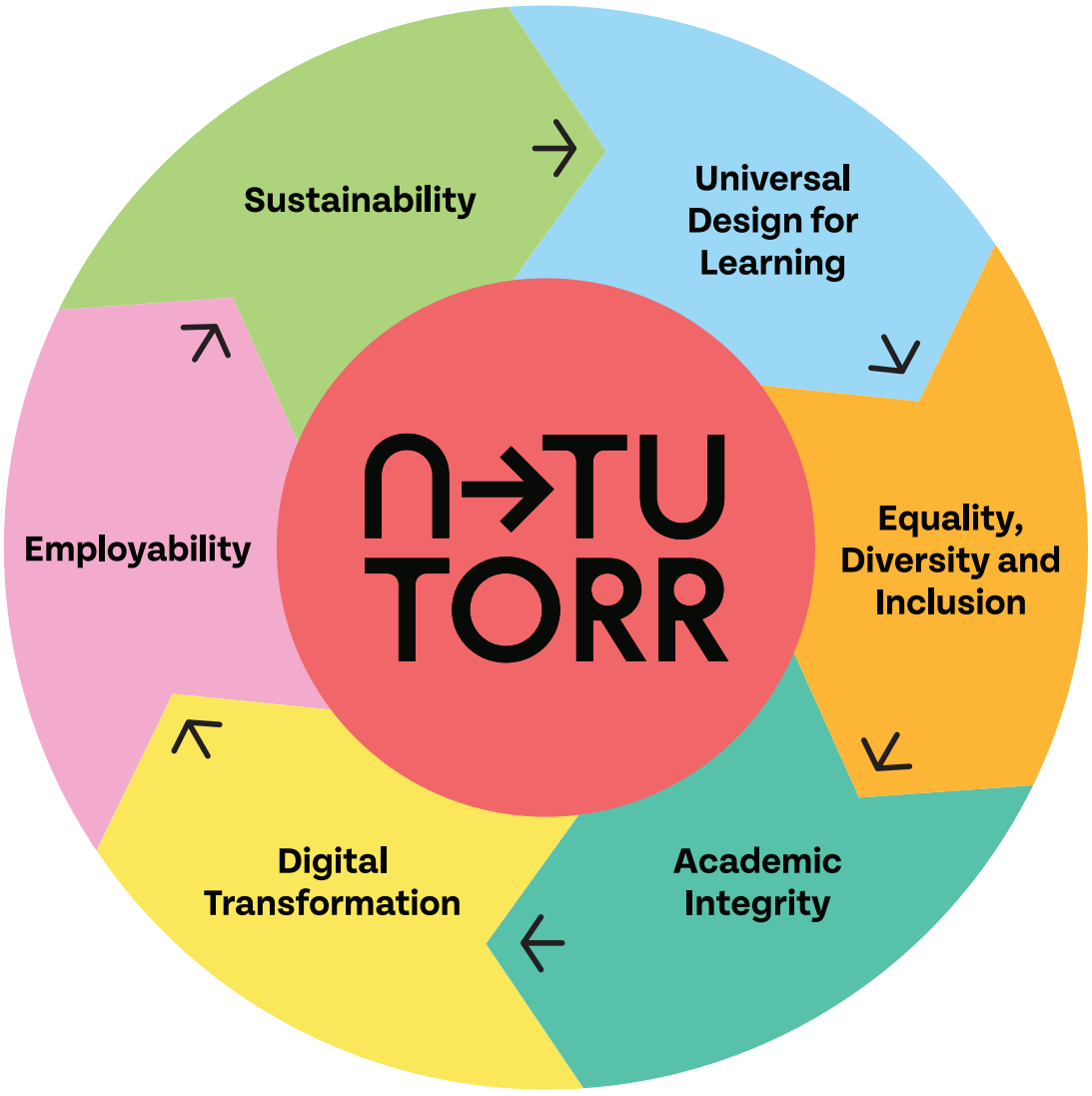
The EU Green Competency Framework includes:

- embodying sustainability values (valuing sustainability, supporting fairness and supporting nature);
- embracing complexity in sustainability (systems thinking, critical thinking, and problem framing);
- acting for sustainability (political agency, collection action, and individual initiative); and
- envisioning sustainable futures (futures literacy, adaptability, and exploratory thinking).

The N-TUTORR principles for sustainability will provide guidance for programme boards and planning teams and promote sustainability education and education for sustainable development, driven and delivered utilising the benefits of digitalisation and technology. The curriculum and assessment design should be underpinned by Universal Design for Learning.

The Sustainable Higher Education Futures Guiding Principles

There are 15 principles across 6 themes. The Appendices provide resources and relevant web-links that support the various themes.



The curriculum should:

Sustainability

1. Create learning opportunities for students to build knowledge of sustainability and the SDGs and capacity for active citizenship.
2. Align with **UNESCO's Key Competences in Education for Sustainability** and the **European Sustainability Competence Framework (GreenComp)**, promoting design thinking, critical thinking, and problem-solving skills to better understand the interconnectedness of social, economic, and environmental factors and to encourage students the long-term implications of their actions.
3. Encourage and enable creative and transformative inter- and trans-disciplinary approaches that are collaborative, experiential, and practically oriented, to promote collaboration and the application of multiple perspectives to address sustainability challenges.
4. Provide opportunities for students to explore the ethical dimensions of sustainability, including social justice, equity, and the impact of values, behaviours and actions on local and global communities fostering an understanding of the importance of responsible citizenship.

Universal Design for Learning (UDL)

5. Have design which is underpinned by the **CAST guidelines for UDL** which includes:
    i. Providing multiple means of engagement (the why of learning) means supporting interest, motivation, and persistence.
    ii. Providing multiple means of action and expression (the how of learning) means providing different ways for students to work with information and content and to demonstrate what they are learning.
    iii. Providing multiple means of representation (the what of learning) means presenting information and content in different ways and making connections between them.

Equality, Diversity, and Inclusion

6. Provide an inclusive curriculum aligned to the EDIT Charter which has been developed by to ensure that the curriculum is "meaningful, relevant and accessible to all students, in which the content and teaching materials, teaching methods and practice, theories and modes of assessment are intentionally designed and delivered in order to relate to, respect, and affirm diverse cultures, histories, identities and life circumstances among our staff and student body as well as the wider world."

Academic Integrity

7. Commit to Academic Integrity (AI) as described by the **National Academic Integrity Network (NAIN) guidelines** which provide advice in upholding AI and in preventing, detecting and deterring academic misconduct.

Digital Transformation in Teaching and Learning

8. **Facilitating Learners' Digital Competence:** Enable Learners to creatively, responsibly and ethically utilise digital technologies for communication, collaboration, content creation, wellbeing and problem solving.
9. **Empowering Learners through active engagement:** Design digital learning experiences that promote active engagement and learner participation. Utilising digital technologies, collaborative activities and problem-based learning approaches to enhance inclusion, personalisation and integrated assessment.
10. **Digital assessment and design:** Include implementation of innovative digital assessment strategies that align with learning outcomes and provide timely and constructive feedback. Explore opportunities for integrated assessment.
11. **Ethical use of education technology and continuous reflection on digital practice:** Promote ethical considerations in the use of education technology, including data privacy, security and responsible use of learning analytics. Foster digital citizenship and safe, responsible use of technology among educators and students and use evidence-based practice to inform ongoing improvements and innovations.

Employability in the curriculum

12. Develop work-ready graduates with a career-focused mindset via embedding employability and work integrated learning initiatives, while fostering strong communication, collaboration, and professional skills.
13. Empower students to shape their careers based on their values, work-life alignment and diverse experiences, fostering graduates who will make meaningful contributions to society and beyond.
14. Integrate academic education with practical and professional experiences, guiding students to reach their full potential and become self-aware graduates prepared for success.
15. Shape curricula and assessments with input from enterprise and stakeholders to foster employability through innovation, creativity, and entrepreneurship, while cultivating a life-wide learning mindset.

Appendices

Appendix 1

Resources and links for the N-TUTORR Toolkit

Theme	Title of Resource	Link
Sustainability	UNESCO Key Competencies in Education for Sustainable Development	https://unesdoc.unesco.org/ark:/48223/pf0000261802
	European Union Green Competency Framework	JRC Publications Repository - GreenComp The European sustainability competence framework (europa.eu)
	Irish National Strategy on Education for Sustainable Development	gov.ie - National Strategy on Education for Sustainable Development in Ireland (www.gov.ie)
	Education for Sustainable Development in Higher Education Report	Education for Sustainable Development (ESD) in Higher Education Consultation Report | News | Higher Education Authority (hea.ie)
	University College Cork Sustainable Development Goals Toolkit	Bring the SDGs into Your Teaching | University College Cork (ucc.ie)
	The Sustainability Tracking, Assessment & Rating System	STARS, Sustainability Tracking Assessment & Rating System (aashe.org)
Universal Design for Learning	CAST UDL Guidelines	UDL: The UDL Guidelines (cast.org)
Equality, Diversity and Inclusion	EDIT Principles	Link here once available
	EDIT Toolkit	Link here once available
Academic Integrity Resources	Academic Inegrity Guidelines - QQI	https://www.qqi.ie/sites/default/files/2021-11/academic-integrity-guidelines.pdf
	National Academic Integrity Network	https://www.qqi.ie/what-we-do/engagement-insights-and-knowledge-sharing/national-academic-integrity-network
	Fundamentals of Academic Integrity, International Centre for Academic Integrity	20019_ICAI-Fundamental-Values_R12.pdf (academicintegrity.org)
	NAIN Guidelines	National Academic Integrity Network | Quality and Qualifications Ireland (qqi.ie) and academic-integrity-guidelines.pdf (qqi.ie)
	NFETL Assessment Principles	Assessment OF/FOR/AS Learning - National Forum for the Enhancement of Teaching and Learning in Higher Education

Theme	Title of Resource	Link
Digital Transformation Resources	European Framework for the Digital Competence of Educators	DigCompEdu (europa.eu)
	Digitaled.ie Digital T&L Knowledge Platform	https://DigitalEd.ie
	DigitalEd.ie Learning Pathways	Learning Pathways - Digital Ed
	Digital Discovery Tool	Discovery Tool - Digital Ed
	Digital Competence Framework for Educators (DigCompEdu)	https://joint-research-centre.ec.europa.eu/digcompedu_en
	Life Competence Framework for Educators (LifeComp	https://joint-research-centre.ec.europa.eu/lifecomp_en
	JISC, Digital Capabilities Framework	https://beta.jisc.ac.uk/building-digital-capability#
	The OSCQR quality course design tool by ATU T&L Centre and SUNY (New York State University)	https://www.digitaled.ie/digital-tools/oscqr/
Employability Resources	DkIT's embedding employability toolkit	https://toolkitemployability.wordpress.com
	DkIT's Framework of Graduate Attributes	https://toolkitemployability.wordpress.com/graduate-attributes/pcs-framework-of-graduate-attributes/
	DkIT's 10-dot matrix to evaluate modules, assessments etc. re. Employability	https://toolkitemployability.wordpress.com/the10-dot-matrix
	DkIT's Employability Superfood Activities	https://toolkitemployability.wordpress.com/superfood-activities/
	AHECS – Association of Higher Education Careers Services, Employability Module	https://warwick.ac.uk/study/cll/about/cllteam/pmccash/ahecs_final_module_08_14.pdf

Appendix 2
Advice to support Universal Design

There are three primary principles of UDL; Engagement, Action and Expression and Representation, which are based on research in the learning sciences, guide UDL. These principles can be helpful in thinking about the design of assessments.

PROVIDE MULTIPLE MEANS OF ENGAGEMENT

Providing multiple means of **engagement** (the **why** of learning) means supporting interest, motivation, and persistence. Just as students learn more effectively when they are engaged and motivated, their performance on assessments can be enhanced by increasing engagement.

- Do students think that they can be successful? Emphasizing the importance of effort and motivation and expressing confidence that students can meet high expectations can improve their performance.
- Do assessments provide different levels of challenge? One way to do this is to provide options on essay exams so that students can choose a question they feel they can answer well. Another way is to allow students to answer essay questions in different formats. Perhaps students could write a classic essay, create a short play, or create a video response. Once an instructor has addressed the question, "What do I really want the learner to learn?" (i.e., construct relevance) then the individual motivations and desires of learners and the time constraints of their instructors may be the only limits to the possibilities.
- Are different formats used for assessments over the course of a semester? As mentioned earlier, the demands and benefits of any one form of assessment will differ for each student. Therefore, the options and supports provided for the first two UDL principles (**representation** and **action and expression**) can enhance engagement in the assessment process.

PROVIDE MULTIPLE MEANS OF ACTION AND EXPRESSION

Providing multiple means of **action and expression** (the **how** of learning) means providing different ways for students to work with information and content and to demonstrate what they are learning.

In assessment, consider the ways in which students will demonstrate what they have learned.

- Will they need to write or draw?
- Will they demonstrate an action?
- Do they need to organize information mentally, or can something be provided to help them organize the information (e.g., concept mapping software)?

Again, consider which actions are actually relevant to the construct being measured and which ones can be supported or varied in order to gain an accurate picture of what each student has learned.

PROVIDE MULTIPLE MEANS OF REPRESENTATION

Providing multiple means of **representation** (the **what** of learning) means presenting information and content in different ways and making connections between them. When planning assessments, consider the ways in which the items are presented—text, graphs, charts, images, videos, demonstrations, objects to manipulate.

- Do the ways in which items are presented create barriers for any students?
- Are there alternatives that could be used that would still allow accurate assessment of what students should know or be able to do?
- Are the representations used construct relevant? For example, if students need to be able to interpret information in graph format, then the graph itself is relevant. If they only need to be able to use the information in the graph, consider providing different formats for displaying the information. Tables, charts, infographics, or even plain text may be a more accessible format for some students. Remember, the goal is to find out what students are learning. Keep in mind basic accessibility requirements for images (including images of tables, charts, and graphs). Any text in an image needs to be readable by a computer or other assistive device that a student might need for access. All images should have **alt text**. Additionally, a **long description** is needed when an image is complex and cannot be described briefly.

When applying UDL principles to assessment, it can be helpful to consider first where there might be barriers that would impact the performance of some learners. **This link provides information on applying the UDL Principles to assessment.**

Appendix 3
The EDIT Charter

Introduction

The transformation of our higher education system with the establishment of Technological Universities provides a unique opportunity to review how we design and deliver our curricula for the benefit of our students and our society.

Our curricula have the potential to improve equality for our students and equalities within our wider society. This is recognised by the Higher Education Authority and has been echoed by the Gender Equality Taskforce both of whom have recommended that higher education institutions fully integrate the gender dimension into both undergraduate and postgraduate curricula.

The EDIT Charter recognises that our approach to achieving gender equality must take a wider, intersectional lens to ensure that we reach the most marginalised in our society. Too narrow a focus on the protected ground of gender or exploring gender in isolation from current and future equality grounds could further exacerbate existing inequalities and result in our curriculum not being reflective of the most marginalised in our society.

This Charter focuses on gender as it intersects with other equality grounds including age, civil status, disability, family status, membership of the Traveller Community, race (colour, nationality or ethnic or national origins), religion, and sexual orientation. An intersectional approach will support Technological Universities work on Athena Swan as well as the recommendations of the Gender Equality Taskforce, which highlighted that 'changes that bring about inclusion for one group will have far-reaching benefits for society' (2018).

The EDIT Charter has been developed by Technological Universities to ensure that:

- As a sector, we are working collaboratively within the same framework when designing our curriculum.
- Our staff knowledge and awareness of gender equality and wider EDI issues increases.
- We can fulfil the recommendations of the Higher Education Authority and the Gender Equality Taskforce to integrate gender equality in all processes and decisions made.

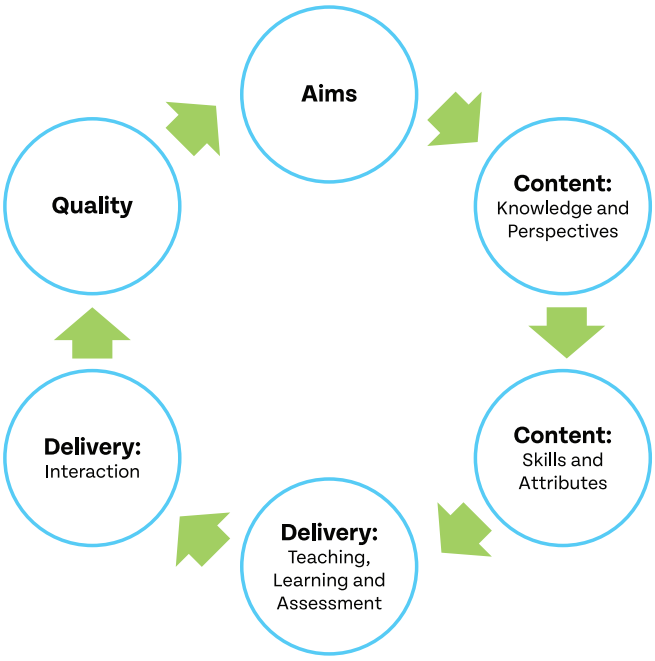
The EDIT Charter will be supported by a toolkit and training for academic staff, programme leaders and other key stakeholders. The toolkit will consist of practical, step-by-step guidance on how to embed EDI into our curricula and the training will build upon this.

The Inclusive Curriculum

The term 'curriculum' can be interpreted very broadly, to encompass all aspects of a student's learning experience, intentional and unintentional, formal and informal, or in a narrower sense to refer to the content as it is designed to be taught. In the context of these principles it is used to refer primarily to the core content, but includes also enabling factors concerning its delivery in the context of programme and module design. Within this Charter, the inclusive curriculum is defined as:

> ***"curriculum which is meaningful, relevant and accessible to all students, in which the content and teaching materials, teaching methods and practice, theories and modes of assessment are intentionally designed and delivered in order to relate to, respect, and affirm diverse cultures, histories, identities and life circumstances among our staff and student body as well as the wider world."***

The Principles



Designed to be used by academic staff and colleagues who are planning and teaching programmes and modules, the principles relate to stages of curriculum design and delivery, to better enable their implementation. The first principle relates to the aims and intended outcomes of the curriculum, as an invitation at proposal or review stage to reflect on **why** it is being designed and **who** it is being designed for. Principles two and three concern the '**what**' of curriculum development: the subject knowledge and perspectives that are taught as well as the skills and attributes which students develop. Principles four and five relate to the '**how**' of teaching, learning and assessment, and the interactions that occur in classrooms and related processes such as evaluation, partnership, student voice etc. Finally, principle six closes the loop with a focus on accountability and dissemination for ongoing improvement.

We commit to:

1. Ensuring that **the aims of curriculum design** regarding intended learning outcomes and graduate attributes do not rest on stereotypes and assumptions about students, graduates, the disciplinary community and future employment fields, which act as barriers to participation.
2. Ensuring that **curriculum content** is inclusive and that students see themselves reflected in it, diversifying the range of content and perspectives included.
3. Embedding and facilitating the **skills and attributes** within the curriculum that are required of graduates to participate in a diverse and evolving society, study and working environments.
4. Providing an inclusive and accessible range of **modes and methods of teaching and assessment** to ensure that students can learn and demonstrate the learning outcomes successfully and authentically (following UDL principles).
5. Promoting **constructive discussions and interactions** that are respectful and where possible reflective of a range of equality groups within the curriculum and about the curriculum. These may be between staff and students, external contributors and students, and amongst students.
6. **Evaluating** the impact of our curriculum on the student experience and **sharing practice** among other signatories of this Charter.

The EDIT project

The Embedding **E**quality **D**iversity & **I**nclusion in the Curriculum of the new **T**echnological University Sector (EDIT) Project has been developed in recognition that the reconfiguration of the Irish HE system provides a unique opportunity to embed the principles of gender equality into the academic strategies, policies, procedures, and curricula of the Technological University (TU) sector.

The EDIT project is funded by the Higher Education Authority and the project partners are:

- South East Technological University
- Munster Technological University
- Technological University of the Shannon: Midlands Midwest
- Atlantic Technological University
- Advance HE

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