WESTERN SYDNEY UNIVERSITY

#1 UNI IN THE WORLD
TIMES HIGHER EDUCATION IMPACT RANKINGS
2022 - 2025

# CURRICULUM INNOVATION AND EMBEDDING ESD ACROSS DISCIPLINES

**SDSN THAILAND PUBLIC FORUM 2025:**
**SUSTAINABILITY IN HIGHER EDUCATION AND RESEARCH**

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# Strategically embedding sustainability education

**Graduate Attributes in an Australian HE context:**

The Australian Qualifications Framework (AQF) is the national policy for regulated qualifications in Australian education and training.

The University Graduate Attributes provide a framework embedded in ALL programs, interpreted and defined in the context of each program.

Program learning outcomes identify the minimum level that students must achieve to graduate from that program. In particular, they frame what will be learned and assessed.


## Western's Graduate Attributes:

- Enacting the principles of intellectual enquiry.
- Applying knowledge and skills to curate and communicate ideas truthfully, with purpose and impact.
- Demonstrating a commitment to life-long learning.
- Actively collaborating in partnership, with respect and reciprocity.
- Acting ethically and responsibly with and for Indigenous Australian peoples and communities.
- Contributing to a sustainable, diverse, and socially-just world.

## Internal supports and systems:

- Curriculum Design and Approval Policy
- Curriculum renewal cycles
- New program proposals (for SE and Indigenous GAs)
- Professional development (e.g. FULT, guidebook, microcredential)
- Teaching Quality Framework

# Contextual approaches to sustainability education

*"… I talk [teach] about the SDGs… there is a place for the micro and macro. You can't change the world by planting tomatoes… You need to be having bigger picture conversations… because you won't be able to survive on the SDGs."*

Dr Karin Louise, Senior Lecturer, School of Education, WSU

Assessing student sustainability literacy levels:

64.9%

of students have an ***Advanced**** knowledge level of core sustainability concepts.

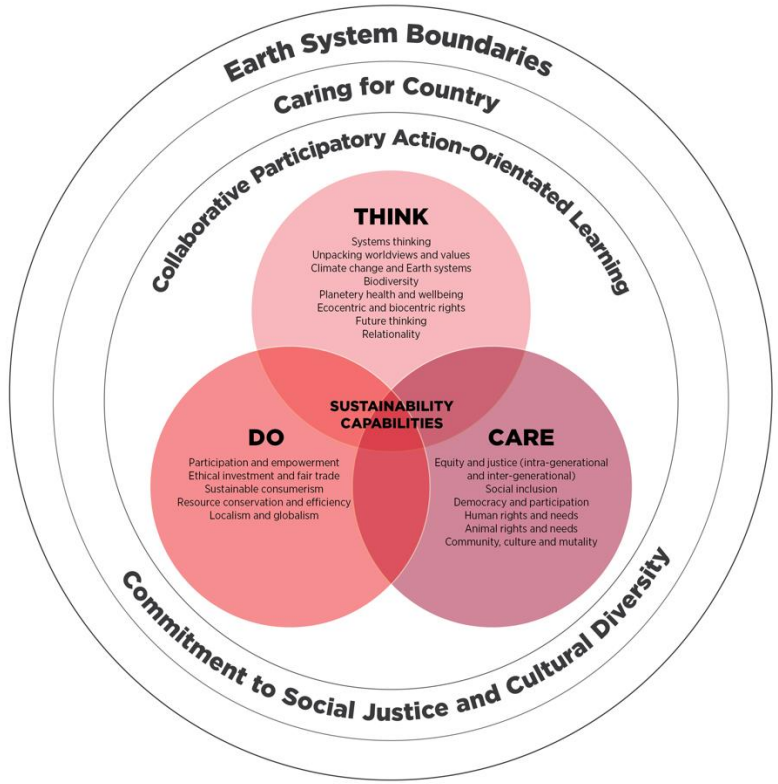
Baseline (2024): 63.5% at the advanced level
Target (2030): 75% at the advanced level

Mapping sustainability education:

- **Education about sustainability (or the SDGs)**
  Education that is transmissive content-driven, learning *about* sustainability issues and/or the SDGs.
- **Education towards the SDGs**
  Education that contributes to the SDGs (or a singular SDG), such as maternal health (in nursing) or environmental health (in science).
- **Education for Sustainability**
  Transformative education that develops lifelong learning (through curriculum and pedagogy).

**Target 4.7:** By 2030, ensure that all learners acquire the knowledge and skills needed to promote sustainable development, including, among others, through education for sustainable development

Applying Western's Sustainability Graduate Attribute (Sustainability Teaching)




WSU Education for Sustainability Framework (Dollin & Vermeulen, 2022)

# Pedagogical approaches: Designing and delivering sustainability education

**Pedagogical strategies:**

- Experiential and theoretical;
- Student-centred and teacher-centred; and
- Participatory, collaborative, and transformative

**Sustainability capabilities: WSU's 'Think, Care, Do' approach**

| Think (Cognitive) | Care (Socio-Emotional) | Do (Praxis) |
|---|---|---|
| Thinking ethically, critically, and creatively to apply a systems and futures thinking perspective to problem and opportunities underpinned by an understanding of fundamental ecological principles. | Respecting and valuing multiple perspectives from a diversity of people, values, and worldviews (a socio-cultural literacy) and taking a deep appreciation of and re-connection with environment and place - the more-than-human along with the human. | Engaging in practical and effective action and applying ecological knowledge to the practice of ecological design. |

**Moving towards transformative sustainability education:**

| Current practices → | Goal |
|---|---|
| From transmissive instruction | To constructivist and transformative learning |
| From fixed knowledge | To provisional knowledge |
| From discipline based | To inter- and transdisciplinary based |
| From abstract knowledge | To real-world knowledge |
| From teaching/instruction | To participatory learning |
| From few learning styles | To multiple learning styles |
| From passive learning | To reflective and active learning |

(Bedi & Germein, 2016)

# Starting points: Implementing sustainability in teaching and learning

## CURRICULUM PATHWAYS

There are several ways to include EfS in your curriculum, including your existing curriculum, to prepare and develop well-rounded students who are prepared for the future of work. Curriculum pathways in your teaching could include:

**Program levels**, with majors and minors focused on sustainability and incorporating transformative teaching and learning.

**Whole of subject** focused on sustainability which can provide discipline-specific or generic sustainability understandings and capabilities.

**Component within an existing subject** such as case studies, assessments or student research projects based on real-world issues.

**Professional practice**, such as work-integrated learning experience, internship or outbound mobility programs, focusing on sustainability.

**Interdisciplinary and transdisciplinary subjects or programs**, including majors and minors, on sustainability issues and approaches.

**Increasing complexity** within levels of study as described in frameworks such as AQF and LTAS (see resource list for more tips on complexity).

# ESD Exemplar: Advance Greenhouse Technology

**Postgraduate subject in the Masters of Science (Greenhouse Technologies)**

- The field of protected cropping is a fast-growing, high-tech, rapidly changing industry.
- The subject introduces the technological aspects of growing food underpinned by sustainability and the SDGs.
- Innovative, learner-centred assessments are integrated and relevant to this dynamic area of agriculture for PG students
    - e.g., students prepare and deliver a "boardroom pitch" (in contrast to a traditional group presentation) on an emerging technology or innovation, while their peers act as the board members.

> *This final project mimics what they will deal with in industry, with a significant portion of the task being applying their SDG knowledge in analysing the impact of the chosen technology. There's a lot for them to consider. The choice of an emerging technology is significant. They must be able to understand and explain the underlying science, consider the business risks and benefits, anticipate implementation issues, think about return on investment (ROI), longevity of the technology, environmental, social and governance (ESG) status of the supplier, and so on.*

Dr Michelle Mak, Senior Lecturer, School of Science

# ESD Exemplar: Physiotherapy Professional Practice

## Undergraduate program in Health Sciences (Bachelor of Physiotherapy)

- The subject is developed in the context of Western Sydney landscape with cultural and linguistic diversity (CALD) at the forefront of student learning.
- All UG students engage in professional practice placements in a partnership with local, remote or rural health agencies as part of accreditation.
    - e.g., Rural Health School in Lismore, Physiotherapy students with the opportunity to undertake Indigenous health modules and develop a deeper understanding of Indigenous culture as part of culturally safe and responsive health care practice through clinical work.

> *We are developing students who embrace cultural and linguistic diversity and have an ongoing commitment to deliver quality healthcare services to people from vulnerable communities. Cultural safety principles are integrated into subjects early in the program and built upon throughout subsequent physiotherapy-specific subjects, including requiring our students to demonstrate these principles and apply them in clinical settings with rural and remote communities.*

Physiotherapy Teaching Team, School of Health Science

# ESD Exemplar: Sustainability specialisations across our programs

Students from **varying disciplines and levels** can undertake a degree specialisations that support transformative teaching for the SDGs, and address Target 4.7 *"... ensure that all learners acquire the knowledge and skills needed to promote sustainable development, including, among others, through education for sustainable development..."*

- **Aging, Wellbeing and Sustainability** (Masters of Health Sciences/Nursing/Social Sciences/Built Environment/Urban and Geography Studies)
- **Agrifood** (Bachelor of Science)
- **Criminology and Criminal Justice** (Bachelor of Psychological and Social Sciences)
- **Design for Sustainability** (Bachelor of Engineering)
- **Environmental Health** (Bachelor of Science)
- **Global Climate Change** (Bachelor of Business)
- **Heritage and Tourism** (Bachelor of Tourism Management/Community Welfare/Social Science)
- **Human Rights, Protection and Development** (Bachelor of Social Sciences/Humanitarian and Development Studies/Tourism Management)
- **Peace and Development Studies** (Bachelor of Social Sciences/Arts/Tourism Management)
- **Property** (Master of Property Investment and Development)
- **Responsible Design and Sustainability** (Bachelor of Design and Technology and Industrial Design)
- **Sport Development** (Bachelor of Health Sciences)
- **Sustainable Business** (Masters of Business Administration)
- **Sustainable Engineering** (Bachelor of Engineering, Business and Engineering Science)
- **Sustainable Environmental Futures** (Bachelor of Science)
- **Sustainable Tourism and Visitor Economies** (Masters of Business Administration)
- **Water and the Environment** (Bachelor of Engineering)

** not an exhaustive list of specialisation as of June 2025.*

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# Thank you

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## SUSTAINABILITY TEACHING AND LEARNING

*Our graduates are the next generation of sustainability leaders, innovators and thinkers.*

Discover how your curriculum can meet the challenge of equipping our students with the knowledge, mindsets and capabilities to thrive in a complex and changing world.

**westernsydney.edu.au/sustainability**