

Academic Year AY2022/23**Academic Units** 3AUs**Tutorial Hours** 39

COURSE AIMS

This course aims to provide multi-disciplinary competence in a cross-disciplinary, collaborative learning environment, with student interaction and collaboration across schools as a key component.

In this course, you will systematically analyse major current sustainability challenges from the perspectives of society, economy, and the environment, with specific focus on Singapore. The course aims to stimulate critical thinking, curiosity, and the ability to structure and synthesise knowledge through the lens of sustainability. Emphasis is on the need to address sustainability issues from different perspectives and at different scales, reinforced by concrete examples such as palm oil production, waste management, pollution & human consumption, and climate change. The course will look at how we can promote a more sustainable world through choices and actions, as individuals, societies, nations, and as a global community.

By the end of the course, you would have developed an awareness for, and a systems thinking approach to, sustainability, which you can continue to develop no matter which discipline or career path you choose to embark on.

INTENDED LEARNING OUTCOMES

Upon the successful completion of this course, you (as a student) will be able to:

1. Explain the multidimensional systemic nature of sustainability.
2. Analyse sustainability challenges from social, economic, and environmental perspectives.
3. Identify and present possible solutions for a sustainable world on different scales for the individual, organisations, Singapore, and globally.
4. Critically discuss sustainability issues in small and large group settings.
5. Collaborate effectively on sustainability issues in cross-disciplinary teams.
6. Evaluate the work of peers on sustainability.

COURSE CONTENT

Topics to be covered in the course:

1. Why each discipline should know about sustainability.
2. The three systems: Society, Economy, and Environment. How sustainable development depends on all three systems, and how to analyse the course topics from these three perspectives.
3. Energy and Climate Change, sustainable and reliable sources, mitigation of climate change.
4. Food system sustainability and global food security.*
5. Responsible consumption and production - waste reduction.
6. Water – availability and sustainable management of water resources.*
7. Pollution – air, plastics, light, noise.*
8. How unequal is the world? Poverty and equality - how to measure it, how widespread it is, how to eradicate it
9. Sustainable cities. Role of big cities in sustainability development. What is a sustainable city?*
10. Planetary boundaries, Earth system feedbacks and tipping points – staying in control of our planet and its systems.

* Topics that will have strong focus on Singapore

REFERENCES

Suggested readings for interested students. The readings may or may not be discussed in class, but they are all very relevant to the course.

1. **Why we can't have nice things:** The story of the light bulb pinpoints a systematic problem with our society <https://www.youtube.com/watch?v=j5v8D-alAKE>
2. **On food sustainability and artificial meat.** This article from the Guardian is by researchers based in Singapore and looks at social, economic, and environmental perspectives on food sustainability and particularly meat alternatives, in both global and local context. <https://www.theguardian.com/food/2021/jun/17/lab-grown-meat-no-kill-food>
3. **Sustainable solutions/natural climate solutions:** This is an inspiring story from Bangladesh on sustainable climate solutions: <https://www.bbc.com/future/article/20210827-the-unlikely-protector-against-rising-seas-in-bangladesh>
4. **The role of economics in food system transformation:** <https://www.nature.com/articles/s43016-021-00266-0>
5. **Reduce, reuse, recycle 1:** Indonesian women turn waste plastic into construction bricks <https://www.youtube.com/watch?v=87miAqWoLEs>
6. **Reduce, reuse, recycle 2:** Sustainable fashion <https://www.theguardian.com/fashion/2021/oct/29/cop26-meet-nine-fashion-designers-making-real-change>
7. **Greenwashing:** ST on sustainable investing and greenwashing https://www.straitstimes.com/business/invest/greenwashing-threat-grows-with-rise-of-sustainable-investing?utm_source=facebook&utm_medium=dc-social-sponsored&utm_campaign=apx46585-article12&fbclid=IwAR0WQ3tHrrBNryQwuenGDvHP3bGb6QMyhOKaLVdiYHbFnsrbY9fkg_Z_rk0
8. **Should we stop taking unlimited clean water for granted?** Is the world running out of fresh water (BBC Future Now) <https://www.bbc.com/future/article/20170412-is-the-world-running-out-of-fresh-water>