

Design and Ecology

Module Code: SCH5529

Ecological Design Thinking

Module Leader: **Mona Nasseri**

Other Module Staff: - **Roberto Fraquelli, Andy Letcher, Stephan Harding**

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Welcome and Introduction

Welcome to the ninth year of our Ecological Design Thinking programme delivered by Schumacher College. The ability to design, and then create, is one of humanities' greatest innovations but it needs to be directed at the challenges we collectively face. Working with natural patterns, embracing all living systems, nurturing the conditions in which all can live well on a finite planet, really could change all of our lives for good.

Ecological Design Thinking seeks to design socio-cultural systems which are aligned and harmonious with ecological systems. As a foundation module, 'Design and Ecology' aims to explore the behaviour of ecosystems and cultivate ecological literacy through intellectual and embodied processes. In this module students evaluate their own ecological philosophy and explore principles from ecology and Gaia theory, dynamic systems thinking, planetary boundaries, complexity theory, regenerative design and biomimicry.

Teaching and Assessment Team

Programme Leader:	Mona Nasserri
Location:	Schumacher College
Email:	Mona.nasserri@schumachercollege.org.uk
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Student meeting times:	By agreement

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Personal Tutors:	Mona Nasserri Roberto Fraquelli
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Student meeting times:	By Agreement

Lecturers:	Mona Nasserri Roberto Fraquelli Stephan Harding Andy Letcher
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Student meeting times:	By Agreement
Module moderators:	Roberto Fraquelli

Module Aims

- Apply principles from ecology and Gaia theory, dynamic systems thinking, planetary boundaries and complexity theory to socio-cultural systems, and advance the transition towards low-carbon and planetary well-being futures:
- Differentiate between different concepts of sustainable design practice, and critically evaluate existing approaches to develop a personal ecological design philosophy (Ecosophy);
- Develop personal and group enquiry practices to raise awareness of the interdependent relationship between the individual, society and nature & between theory, experience and practice.

Module Assessed Learning Outcomes

1. Explore and synthesize conceptual and practical implications of eco-literacy for ecological design thinking practitioners.
2. Self-evaluate and reflect on one's own values and behaviours in order to improve professional and personal awareness and practice;
3. Critically and creatively analyse contemporary challenges through theoretical and experiential understanding of ecological worldviews. This can be drawn from one or more of the following: ecology and systems thinking; holism, phenomenology and Goethean approaches; chaos and complexity science; and Gaia theory.

Teaching and Learning Strategy

SUMMARY OF TEACHING AND LEARNING [Use HESA KIS definitions]		
Scheduled Activities	Hours	Comments/Additional Information (briefly explain activities, including formative assessment opportunities)
Schumacher residential (Lecture- based session)	15	Students will attend teaching sessions which include lectures, discussions, and practical exercises during the residential time in Schumacher college.
Schumacher Residential (Practical session)	20	In keeping with Schumacher College's holistic approach to pro-active learning, activities will include a selection of immersive experiences in nature to better understand natural systems and cycles.
On-line lectures	12	Students will explore a selection of subject content relating to design and ecology.
Online tutorials and supervision	2	Students will form learning groups to promote peer-to-peer learning, discussion and project work. Students will also receive group or individual tutorials.
Guided independent study	241	Students will be expected to spend significant time during the module, and in the completion of their projects studying independently, either individually or as part of a project group.
Total	300	(NB: 1 credit = 10 hours of learning; 10 credits = 100 hours, etc.)

Students are expected to take full responsibility for their learning, **attend all** scheduled sessions, read appropriate indicated readings, and work on set exercises (formative and summative assessment).

Based on previous experience; students who failed to attend sessions are likely to be unsuccessful or show poor performance. Please ensure that you are engaging with the content and learning activities relating to this module.

Scheme of Work

This module will be assessed by: **Mona Nasser** and **Roberto Fraquelli**

Element Category	Component Name	Component Weighting
Coursework	Creative essay (this is a written document drawing from literature and personal reflection) ALO 1, ALO2, ALO3	100%

Assignment submission 12.00pm on Tuesday, November 1, 2022
 Feedback and provisional marks 12.00pm on Tuesday, November 29, 2022

Assessment form

Assessed Learning Outcome 1: Explore and synthesize conceptual and practical implications of eco-literacy for ecological design thinking practitioners.			
Fail: 0 – 49%	Pass: 50 – 59%	Merit: 60 – 69%	Distinction: 70 – 100%
Fails to provide evidence for a satisfying development of ideas on ecological design thinking in practice	Provide partial evidence for a satisfying development of ideas on ecological design thinking in practice.	Demonstrates a comprehensive exploration of ecological design thinking in practice.	Demonstrates a thorough and rigorous ability to develop and communicate ideas about ecological design thinking in practice.

Assessed Learning Outcome 2: Self-evaluate and reflect on their own values and behaviours in order to improve professional and personal awareness and practice.			
Fail: 0 – 49%	Pass: 50 – 59%	Merit: 60 – 69%	Distinction: 70 – 100%
Absence of any evidence demonstrating self evaluation and awareness with respect to personal and professional values and behaviour. This is assessed against evidence of:	Provides limited evidence of self evaluation and inquiry with respect to personal and professional values and behaviour. This is assessed against evidence of:	Provides robust evidence of reflexive awareness into personal and professional values and behaviours. This is assessed against evidence of:	Provide extensive evidence and detailed inquiry into one's own personal and professional practices combined with excellent, reflexively-rich, descriptions of how values, behaviours and experiences can affect particular outcomes. This is assessed against evidence of:
<ul style="list-style-type: none"> - Evaluating own individual practice, in terms of feelings, behaviours and actions. - Evaluating one's interaction with others from an inter-personal perspective. - Demonstrating an understanding of reflexivity and how it manifests in your own work. - Noting the emergence of new understandings and practices in a relational, dialogic sense. - Identifying areas for improvement and showing changes in practice 			

Assessed Learning Outcome 3: Critically and creatively analyze contemporary challenges through theoretical and experiential understanding of ecological worldviews. This can be drawn from one or more of the following: ecology and systems thinking; holism, phenomenology and Goethean approaches; chaos and complexity science; and Gaia theory.			
Fail: 0 – 49%	Pass: 50 – 59%	Merit: 60 – 69%	Distinction: 70 – 100%
Does not demonstrate sufficient understanding of an ecological worldview.	Demonstrates a partial understanding of an ecological worldview in response to contemporary challenges	Demonstrates a sound understanding of an ecological worldview drawing from relevant discourses and in response to contemporary challenges.	Demonstrates a critical understanding of an ecological worldview, drawing from relevant discourses in response to contemporary challenges

Students are requested to submit:

- A Creative essay - online via the DLE on 1st November 2022.

The work will be marked using assessment form. Feedback will be discussed and delivered to students no later than 29th November 2022.

Students will receive a module briefing document confirming the module aims, schedule, learning outcomes and core reading list. Students will also be able to access all teaching material (PowerPoint and support documentation), and reading list via the DLE.

With agreement with students taught session will be recorded and made available to students via the DLE. Teaching materials, Assignment submission areas and student feedback forms are available on the DLE:

<https://dle.plymouth.ac.uk/course/view.php?id=58654>

Module sessions

Semester Week	Week Beginning	Provisional Activities
1	19 September	Ways of seeing
2	26 September	Exploring Ecology
3	3 October	Indigenous Wisdom
4	10 October	Re-enchantment of Nature
5	17 October	Design and Ecology
6	24 October	Study Week

Please note that this schedule may be subject to alteration; you are advised to use the links below. Please note that this schedule may be subject to alteration.

Late Work/Extenuating Circumstances

If your participation in an examination or assessment has been affected by an extenuating circumstance, then you can ask the University to take this into consideration. You can submit a claim for extenuating circumstances to cover late submission of work, non-submission of work or non-attendance at a time specific assessment, such as an examination, test presentation or performance, or field class.

Information regarding the Extenuating Circumstances policy and how and where to submit Extenuating Circumstance Claims are available here: <https://www.plymouth.ac.uk/student-life/your-studies/essential-information/exams/exam-rules-and-regulations/extenuating-circumstances>

Where there are no valid extenuating circumstances, the following regulations will automatically apply:

- Work submitted after the deadline date/time but within 24 hours of it, will be capped at the pass mark to 50% if PG
- Work submitted 24 hours after the deadline will receive a mark of zero.

Students will be informed and reminded about the process relating to extenuating circumstances during the module briefing/introduction session.

Sources of Guidance and Support

Students and academic staff will work closely together to make best use of Seminars, personal tutorials, DAS and LD to modify any assessment modes and/or provisions required. During the residential time students are encouraged to make use of the wider Dartington Learning opportunities including sister programmes at Schumacher College and Dartington Arts School, short-courses and vocational programmes; and the broad level of facilities available on the Dartington estate including cinema, social entrepreneur programmes and many other resources and services available.

Referencing Protocols and Academic Offences

When writing a report or an essay you are expected to fully reference the materials you have used. The report or essay should be your own work, in your own words.

Plagiarism is an offence under the University regulations on examination and assessment offences. It is important that you familiarise yourself with what constitutes plagiarism, and academic offences. Further information can be found:

<https://www.plymouth.ac.uk/student-life/your-studies/essential-information/regulations/plagiarism>

And <https://www.plymouth.ac.uk/student-life/your-studies/essential-information/exams/exam-rules-and-regulations/examination-offences>

Reading List; Recommended Texts/Support Materials

Recommended Readings:

- Holdrege, C, (2013) *Thinking Like a Plant: A Living Science for Life*. Lindisfarne Books. Barrington
- Brewer, J., (2021) *The Design Pathway for Regenerating Earth*,. Chelsea Green
- Kimmere. W.R.(2013)*Braiding Sweetgrass: Indigenous Wisdom, Scientific Knowledge and teaching of plants*. Milkweed. Washington
- Wahl, D., (2016) *Designing Regenerative Culture*, Axminster: Triarchy
- Benyus, J.M.,(2002). *Biomimicry*. Harper Perennial, New York.
- Mathews, F., (2011) **Towards a deeper Philosophy of Biomimicry**. Organization and Environment. DOI: 10.1177/1086026611425689
- Meadows, D.H., (2008) *thinking in systems*. Chelsea Green
- Orr, D.W., (1992). *Ecological Literacy: Education and the transition to a postmodern world*. New York Press. NY press
- Ryn, S.V.D., Cowan, S., (2007). *Ecological Design*. Island Press. London
- Capra, F., (2014) *A system View of Life: A unifying vision*. Cambridge University Press

More reading suggestions

- Haraway, D (2016) *Staying With The Trouble: Making Kin in the Chthulucene (Experimental Futures)* Duke University Press Books
- Harding, S., (2006) *Animate Earth*. Green Books. Dartington.
- Abram, D. (1996) *The Spell of the Sensuous*. Pantheon, NY
- Arne Naess (1989) *Ecology, Community and Life style: Outline of Ecosophy*. Cambridge University Press. Cambridge
- Yunkaporta, T., (2019) *Sand Talk: how indigenous Thinking can save the world*. Harperone
- Woolley-Baker, T., () *The Teeming Transformation: Proven strategies from Nature's most adaptive organizations*
- Wilson, E.O. (1984) *Biophilia*. Harvard University Press. Camb. Mas
- Drengson, A. & Devall, B. (eds)(2008) *The Ecology of Wisdom*. Writings by Arne
- Naess. Counterpoint. Berkeley.
- Macy, J. Brown, M. Fox, Matthew. McIntosh, D. (2014) *Coming Back to Life: The Updated Guide to the Work that Reconnects*. New Society Publisher. Gabriola Island, British Columbia
- Monbiot, G. (2013) *Feral*. Allen Lane. London.
- Orr, D.W. (2011) *Hope is an Imperative*. The Essential David Orr. Island Press. Washington DC.
- Goodwin, B., (2001) *How the leopard changed its spots : The evolution of complexity*. Princeton University Press.
- Campbell, Colin T. (2013) *Whole*. BenBella Books Inc. Dallas.
- Diamond, J. (2006) *Collapse*. Penguin Books. London.
- Harman, J., (2013) *The Shark's Paintbrush: Biomimicry and How Nature Is Inspiring Innovation*. White Cloud Press, Ashland, Ore.
- Kellert, S.R., Heerwagen, J., Mador, M., (2008) *Biophilic Design: The Theory, Science, And Practice Of Bringing Buildings To Life*. Wiley, Hoboken, N.J.
- Palmer, P.J., (1993) *To Know as we are Known* San Francisco: Harper
- Vaughan-Lee, L. (2016) *Spiritual Ecology: The Cry of the Earth, a Collection of Essays*. The Golden Sufi Centre, California
- Walker B. And Salt D. (2006) *Resilience Thinking*. Island Press, Washington DC
- Weisman, A. (2008) *A World Without Us*. Virgin Books Ltd. London.
- Whitefield, P. (2013) *The Earth Care Manual: A Permaculture Handbook for Britain and Other Temperate Climates*. Permanent publication. Hampshire

Module Feedback

We value what our students say: you share your feedback we act upon it. Part of the feedback process includes Module Evaluation.