

Ecology and Economics
Module Code: SCH512

Regenerative Economics 2020-2021

Module Leader: **Jonathan Dawson**

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Welcome and Introduction

SCH512: Ecology and Economics

This module explores the systemic roots of the various crises converging on our civilisation. The module involves a deep dive into holistic science and the design principles underlying other-than-human self-organising principles. It explores the degree to which insights can be gleaned from these fields that could be transferable into the socio-economic realms. A core hypothesis is that at the root of our converging crisis is the widening gulf between how natural and human systems are designed and organised. The module will seek to develop within the learning community personal & group inquiry practices to raise awareness of the interdependent relationship between the individual, society and nature.

Teaching and Assessment Team

Programme Leader:	Jonathan Dawson
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Student meeting times:	Informal, by negotiation. Formal tutorial in study week at the end of the module

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Module Aims

This module aims to:

1. Explore the systemic roots of the multiple crises converging on our civilisation;
2. Describe the design principles emerging from a study of diverse fields of holistic science;
3. Critically analyse the degree to which such principles may throw light on the design of more just, resilient and sustainable socio-economic systems;
4. Develop personal & group inquiry practices to raise awareness of the interdependent relationship between the individual, society and nature & between theory, experience & practice.

Assessed Learning Outcomes

- Demonstrate an understanding of the systemic roots of the various crises converging on our civilization
- Critically appraise an ecological world view drawn from ecology and systems thinking, chaos and complexity science, Gaia Theory and/or phenomenology
- Apply holistic science theory to case study applications in the socio-economic domain
- Self evaluate and reflect on own values and behaviours in order to improve professional and personal awareness, practice and team work

Teaching and Learning Strategy

SUMMARY OF TEACHING AND LEARNING [Use HESA KIS definitions]		
Scheduled Activities	Hours	Comments/Additional Information
Lecture	20	
Seminar	20	
Tutorial	12	
Demonstration	0	
Practical classes and workshops	10	
External visit	8	
Guided independent study	230	Preparation for scheduled activities using Virtual Learning Environment, module reading list and class materials; preparation for assignments. Detailed formative assessment will be given to students on a one to one basis.
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:

Element of Assessment	Module Weighting	Component	Link to Assessed Learning Outcomes
Either: i) a 4,000-word essay or ii) an artistic project (which needs to be agreed in advance with the module leader accompanied by a 1,500 word academic commentary	70%		LO1, LO2, LO3
The summary of a reflective learning journal (approx. 1,000 words)	30%		LO4

The submission, marking and feedback schedule is as follows

Both assessment assignments

Drafts/outlines	12 noon UK-time on Friday, 23/10/2020
Formative feedback	12 noon UK-time on Monday, 26/10/2020
Assignment submission	12 noon UK-time on Friday, 30/10/2020
Feedback and provisional marks	12 noon UK time on Friday, 27/11/2020

Marking Rubric

LO1: • Demonstrate an understanding of the systemic roots of the various crises converging on our civilisation			
Fail: 0 – 49%	Pass: 50 – 59%	Merit: 60 – 69%	Distinction: 70 – 100%
Does not demonstrate an understanding of the systemic roots of the various crises converging on our civilisation	Demonstrate a fair understanding of the systemic roots of the various crises converging on our civilisation	Demonstrate a sound understanding of the systemic roots of the various crises converging on our civilisation	Demonstrates full and detailed understanding of the systemic roots of the various crises converging on our civilisation
LO2: • Critically appraise an ecological world view drawn from ecology and systems thinking, chaos and complexity science, Gaia Theory and/or phenomenology			
Fail: 0 – 49%	Pass: 50 – 59%	Merit: 60 – 69%	Distinction: 70 – 100%
Fails to critically appraise an ecological world view drawn from ecology and systems thinking, chaos and complexity science, Gaia Theory and phenomenology;	Critically appraises in some measure an ecological world view drawn from ecology and systems thinking, chaos and complexity science, Gaia Theory and phenomenology;	Critically appraises in good measure an understanding of an ecological world view drawn from ecology and systems thinking, chaos and complexity science, Gaia Theory and phenomenology;	Critically appraises comprehensively an ecological world view drawn from ecology and systems thinking, chaos and complexity science, Gaia Theory and phenomenology;
LO3: • Apply holistic science theory to case study applications in the socio-economic domain			
Fail: 0 – 49%	Pass: 50 – 59%	Merit: 60 – 69%	Distinction: 70 – 100%
Does not apply holistic science theory to case study applications in the socio-economic domain. Limited reference to relevant literature.	Limited use of case studies to demonstrate application of holistic science theory to the socio-economic domain.	Successful use of case studies to demonstrate application of holistic science theory to the socio-economic domain.	Excellent and rigorous use of case studies to demonstrate the application of holistic science theory to the socio-economic domain.

LO4: • Self evaluate and reflect on own values and behaviours in order to improve professional and personal awareness, practice and team work

Fail: 0 – 49%	Pass: 50 – 59%	Merit: 60 – 69%	Distinction: 70 – 100%
Lacks evidence of reflection on own practice and lacks descriptions of how practice and team work have changed as a result.	Limited evidence of reflection on own practice and limited descriptions of how practice and team work have changed as a result.	Clear evidence of reflection on own practice, some evidence of reflexive awareness and good descriptions of how practice and team work have changed as a result.	Extensive evidence of reflection on own practice and excellent, reflexively-rich, descriptions of how practice and team work have changed as a result.
This is assessed against evidence of:	This is assessed against evidence of:	This is assessed against evidence of:	This is assessed against evidence of:
Evaluating own individual practice, in terms of feelings, behaviours and actions.	Evaluating own individual practice, in terms of feelings, behaviours and actions.	Evaluating own individual practice, in terms of feelings, behaviours and actions.	Evaluating own individual practice, in terms of feelings, behaviours and actions.
Evaluating one’s interaction with others from an inter-personal perspective.	Evaluating one’s interaction with others from an inter-personal perspective.	Evaluating one’s interaction with others from an inter-personal perspective.	Evaluating one’s interaction with others from an inter-personal perspective.
Demonstrating an understanding of reflexivity and how it manifests in your own work.	Demonstrating an understanding of reflexivity and how it manifests in your own work.	Demonstrating an understanding of reflexivity and how it manifests in your own work.	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.	Noting the emergence of new understandings and practices in a relational, dialogic sense.	Noting the emergence of new understandings and practices in a relational, dialogic sense.	Noting the emergence of new understandings and practices in a relational, dialogic sense.
Identifying areas for improvement and showing changes in practice.	Identifying areas for improvement and showing changes in practice.	Identifying areas for improvement and showing changes in practice.	Identifying areas for improvement and showing changes in practice.

Outline of module sessions

Semester Week	Week Beginning	Provisional Activities
1	21/9/20	Otto Scharmer’s Theory U and the 3 Divides
2	28/9/20	Ecology
3	5/10/20	Systems thinking and complexity theory
4	12/10/20	Phenomenology and animism
5	19/10/20	Social ecology
6	26/10/20	Study week

Please note that this schedule may be subject to alteration; you are advised to use this link:

<https://open.schumachercollege.org.uk/course/view.php?id=179>

Hand in Process and Submission of Assessed Work

All assessment assignments must be submitted via an electronic 'drop box' on the Virtual Learning Environment to meet the date and time as published in your Teaching, Learning and Assessment Handbook. Where CDs, DVDs or other project materials are submitted as part of the project, these should, where possible, be submitted in triplicate, enabling both of the main markers and the External Examiner to receive copies. These must be presented by the specified date and time to the postgraduate administration office. In the event the Postgraduate administration team are unavailable a member of faculty will be nominated to accept submissions in advance of each deadline date.

Turnitin

Turnitin (<http://www.turnitinuk.com/>) is an Internet-based 'originality checking tool' which allows documents to be compared with content on the Internet, in journals and in an archive of previously submitted works. It can help to detect unintentional or deliberate plagiarism.

It is a formative tool that makes it easy for students to review their citations and referencing as an aid to learning good academic practice. Turnitin produces an 'originality report' which may be necessary to be attached to your coursework and your tutors will advise you on how to access and use Turnitin where required for your studies. To learn more about Turnitin go to: <https://help.turnitin.com/Home.htm>

Key teaching materials

These will comprise pre-class readings, follow-up resources, videos, podcasts, digital presentations etc. All these will be posted on our digital resource bank, the Virtual Learning Environment (VLE).

Full details on the module together with information on assessment and feedback can be found here <https://open.schumachercollege.org.uk/course/view.php?id=166>

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 50%
- Work submitted 24 hours after the deadline will receive a mark of zero.

Students must notify the programme & module leader of any extenuating circumstances as soon as possible.

Sources of Guidance and Support

In the intimate context of Schumacher College where class sizes are small, opportunities for conversations and informal tutorials with staff happen on a daily basis both within and beyond the classroom. In addition, a formal 45-minute tutorial is provided in the study week at the end of each module.

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

Key resource list

- Walker B. And Salt D. (2006) *Resilience Thinking*. Island Press, Washington DC
- Berkes F., Colding J. and Folke C. (2008) *Navigating Social-Ecological Systems – Building Resilience for Complexity and change*, Cambridge University Press.
- Gunderson L.H. and Holling C.S. (2002) *Panarchy: Understanding Transformations in Human and Natural Systems*. Island Press, Washington DC
- Stern N. (2006) *Review on the Economics of Climate Change*, [on-line] http://www.hm-treasury.gov.uk/sternreview_index.htm
- Heinberg R. And Lerch D. (eds) (2010) *The Post Carbon Reader: Managing the 21st Century Crises*. Chs 1,2,3,6 and 15. Watershed Media, California.
- Capra f. (1997) *The Web of Life*, Flamingo, London
- Harding S.P, (2009) *Animate Earth: Science, Intuition and Gaia*
- Goodwin B. (2007) *Nature's Due: Healing Our Fragmented Culture*, Floris Edinburgh
- Lovelock J. (2000) *Gaia: The Practical Science of Planetary Medicine*, Gaia Books.
- Kauffman S. (1993) *The Origins of Order*. Oxford University Press.
- Meadows D.H. (1997) *Places to Intervene in a System*. Whole Earth,
- Arthur W.B. (1999) 'Complexity and the Economy'. *Science* 284: 107-109.
- Omerod P (1998) *Butterfly Economics*. Faber and Faber, London.
- Lent A. and Lockwood M (2010) *Creative Destruction: Placing Innovation at the Heart of Progressive Economics*, IPPR, London
- Beinhocker E. (2007) *The Origin of Wealth – Evolution, Complexity and the Radical Re-Making of Economics*, Random House, London
- Richardson J et al (2007) *Using Science to Create a Better Place*. EA, Bristol.
- www.worldmapper.org Ecological footprints of resource use
- www.teebweb.org/ The Economics of Ecosystems and Biodiversity
- www.nature.com/news/specials/planetaryboundaries Planetary Boundaries
- www.oneplanetliving.org WWF One Planet Living within Earth System Boundaries
- <http://www.copenhagendiagnosis.org/> Synthesis of policy relevant climate science
- www.lse.ac.uk/complexity Socio-economic applications of complexity science

Module Feedback

We value what our students say: you share your feedback we act upon it. Part of the feedback process includes Module Evaluation. A link to the form and details of where to submit can be found here:

<https://open.schumachercollege.org.uk/course/view.php?id=179>