Schumacher College

PROGRAMME QUALITY

Ecological Design Thinking
2018 - 2019

UNIVERSITY OF PLYMOUTH

Dartington

1.0 Welcome

Welcome and Introduction to MA / PG Dip / PG Cert Ecological Design Thinking

Welcome to this, the fifth year of our postgraduate programme *Ecological Design Thinking.*

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. Work with natural patterns, embracing all living systems, nurturing the conditions in which all can live well on a finite planet, and design really could change all of our lives for good.

As passive 'consumers' we have become increasingly disconnected from our own abilities, from one another, and the ecosystem we are part of. It has long been understood that gross consumption generally leads to more waste production and pollution, while disproportionately benefitting those who already have most. A focus on economic growth tends to increase the problems of poverty and social inequality and does not necessarily lead to more happiness or enhance those factors which add to the quality of our lives. It is time to do something about it, and ecological design thinking can help catalyse that process.

This is the world's only postgraduate design thinking programme that begins with an immersion in Gaian science, phenomenology and complexity theory, asking how we can re-imagine the way that we live and organise to be in alignment with the design principles of healthy living systems. We are very much looking forward to working with you, our cohort of students, and a wide range of innovative thinkers and practitioners to meet this challenge.

You will learn collaboratively through seminars, workshops, and conversations, outdoors, in studios with local partners and around the coffee table. This will be a truly immersive learning process. Over the course of our journey together, we will focus on the skills and approaches you will need to encourage and facilitate others in groups and collectives, to address problems through a new ecological and social lens. Much of the work will be carried out in groups exploring problems of a wide range of types, large and small, current and future oriented, ranging from food production to urban transformation and even the finance system.

For over 27 years, Schumacher College has been pioneering radical new thinking in design, attracting participants and inspirational teachers from around the globe. Now we are collaborating with the School of Art, Design and Architecture at University of Plymouth, and the Transition Network to offer a postgraduate programme in Ecological Design Thinking. The aim is to inspire, skill and support a new generation of design activists and thinkers to catalyse the transition to a future where we use far less of the Earth's resources, and where all can flourish.

Together, we will guide the programme, inviting in a range of experts, artists, activists and academics as visiting teachers. We will be there to support your learning journey, collectively and individually, and will be working with you to ensure this pioneering programme meets your aspirations and helps create a platform for your ongoing life journey as an effective and empowered change agent. Good luck and we very much look forward to sharing this learning journey with you.

Roberto Fraquelli, Mona Nasseri and Ruth Potts
Core Faculty of the Ecological Design Thinking programme

This programme has been designed to equip you with the skills and knowledge base required to work in your chosen specialism or other graduate opportunities. It is also a platform from which you can undertake additional vocational and academic qualifications.

This Programme Quality handbook contains important information including
- The approved programme specification
- Module records

Note: the information in this handbook should be read in conjunction with the current edition of:

- Your Schumacher College and University Student Handbook which contains student support based information on issues such as finance and studying at HE, available at **https://www.schumachercollege.org.uk/sites/default/files//Download%20Files/2018GeneralHB.pdf**

- Your Teaching, Learning and Assessment Handbook available on your programme virtual learning environment and online at **https://www.schumachercollege.org.uk/sites/default/files//Download%20Files/2018EDT_TLA.pdf**

- Your University of Plymouth Student Handbook available at **https://www.plymouth.ac.uk/your-university/governance/student-handbook**

2.0 Programme Specification

PLEASE NOTE: The Programme Specification below is a definitive document which is created when a programme is approved and, therefore, does not require updating each year, only when approved changes to the programme are made. The Programme Specification will therefore contain dates that are historic. If you have any queries about this document please speak to the Programme Leader for your course.

Programme Specification

Awarding Institution:	University of Plymouth
Teaching Institution:	Schumacher College
Accrediting Body:	N/A
Final Award:	MA
Intermediate Awards:	PG Certificate / PG Diploma
Programme Title:	Ecological Design Thinking
UCAS Code:	N/A
JACS Code:	W290
Benchmarks:	The course has been developed with reference to the SEEC level 7 Descriptors (2010) and QAA guidance. There are no directly applicable QAA subject benchmarks for this programme.
Date of Approval:	4 December 2013

Contents

Qualification(s) Required for Entry to the MA	Comments
BA (Honours) Degree	A first degree in design, or the social or natural sciences. Where the first degree is not design-related, a portfolio of work will be required in support of the application or experience that is equivalent.
Other non-standard awards or experiences	A willingness to play a part in interrogating and co-creating Ecological Design Thinking as an evolving discipline.
Interview requirements	All applicants are required to attend an interview, either at the college, or by Skype.
Language Requirements	GCSE (C or above)/ professional English qualification/TOEFL or IELTS Certificate to the equivalent level (taken no more than 2 years before the date of application) Contact the college for more information.
Access	Schumacher College is a historic building meaning that not all areas of the college are accessible. Students will be able to access all of the areas needed to complete their study, and play an active role in the social life of the college.
Independent Safeguarding Agency (ISA) / Criminal Record Bureau (CRB) clearance required	No.

A0.1   MA Ecological Design Thinking

A0.1a Aims of the Programme: MA Ecological Design Thinking

The programme is intended to:
1. To develop the student's knowledge and understanding of the principles and practices of Ecological Design Thinking to enable them to work collaboratively to develop transition pathways for communities to low carbon, high well-being and resilient places and systems;
2. To acknowledge and develop the whole person as a participant in the co-creation of these transition pathways;
3. To develop and enhance the individual's cognitive/intellectual skills; key transferable skills; and practical skills for sustainable living, livelihood and engaged ecological citizenship.

A0.1b Programme Intended Learning Outcomes (LO): MA Ecological Design Thinking
By the end of this programme the student will be able to:

Setting
1. Critically evaluate the relationship between ecological design thinking and the related disciplines of economics and ecology and its application to design.

Knowledge and Understanding
2. Critically describe the theoretical and experiential understanding of an ecological world view (ecology, systems thinking, complexity science, Gaia theory) and its application to the design of systems, objects and places.
3. Critically describe the theoretical and experiential understanding of critiques of the neoclassical economic model from alternative schools of thought and its application to the design of systems, objects and places.

4. Critically appraise the theoretical frameworks, histories, tools, methods and case studies related to ecological design thinking and their application to design.
5. Identify, select and use sources of knowledge and evidence of design, market, policy and institutional failures that give rise to crises in our economic, social, ethical and ecological systems.

Cognitive Skills

6. Critically develop and systematically test, analyse and appraise design options drawing original conclusions and displaying methodological and theoretical rigour.
7. Critically engage with the theoretical literature demonstrating the ability to analyse, evaluate, compare and contrast, synthesise and work creatively with conflicting ideas and uncertainty.
8. Identify a suitable research topic, plan and develop a project design, analyse the issue using an appropriate methodology, synthesise findings, reflect on the process and display an appreciation of the ethical dimensions of the project.

Performance and practice

9. Implement and plan their own learning, and make use of scholarly reviews and primary resources (e.g. refereed research articles and/or original materials appropriate to the discipline).
10. Formulate theoretical principles for a new approach to design for the transition to low carbon, high well-being and resilient economies and communities.
11. Formulate participatory practices for new approaches to the ecological design process that include a range of stakeholders in the full lifecycle of projects.

Personal and enabling skills

12. Self-evaluate and reflect on own values and behaviours in order to improve personal and/or professional practice.
13. Use visual, verbal and written communication and appropriate media (including sketching, modelling and digital and electronic techniques) to represent the testing, analysis and critical appraisal of complex design proposals and their resolution to a range of specialist and non-specialist audiences.
14. Critically evaluate the ethical implications of individual and group work and proactively formulate solutions.

A0.2   Programme Learning Outcomes: PG Diploma Ecological Design Thinking

A0.2a Aims of the Programme: PG Diploma Ecological Design Thinking

The programme is intended to:
1. To develop the student's knowledge and understanding of the principles and practices of Ecological Design Thinking to enable them to work collaboratively to develop transition pathways for communities to low carbon, high well-being and resilient places and systems;
2. To acknowledge and develop the whole person as a participant in the co-creation of these transition pathways;
3. To develop the individual's cognitive skills; key transferable skills; and practical skills for sustainable living, livelihood and engaged ecological citizenship.

A0.2b Programme Intended Learning Outcomes (LO): PG Diploma Ecological Design Thinking

By the end of this programme the student will be able to:

Setting

1. Critically evaluate the relationship between ecological design thinking and the related disciplines of economics and ecology and its application to design

Knowledge and Understanding

2. Critically describe the theoretical and experiential understanding of an ecological world view (ecology, systems thinking, complexity science, Gaia theory) and its application to the design of systems, objects and places.
3. Critically describe the theoretical and experiential understanding of critiques of the neoclassical economic model from alternative schools of thought and its application to the design of systems, objects and places.
4. Critically appraise the theoretical frameworks, histories, tools, methods and case studies related to ecological design thinking and their application to design.
5. Identify, select and use sources of knowledge and evidence of design, market, policy and institutional failures that give rise to crises in our economic, social, ethical and ecological systems.

Cognitive Skills

6. Critically develop and systematically test, analyse and appraise design options drawing original conclusions and displaying methodological and theoretical rigour.
7. Critically engage with the theoretical literature demonstrating the ability to analyse, evaluate, compare and contrast, synthesise and work creatively with conflicting ideas and uncertainty.

Performance and practice

8. Implement and plan their own learning, and make use of scholarly reviews and primary resources (e.g. refereed research articles and/or original materials appropriate to the discipline).
9. Formulate theoretical principles for a new approach to design for the transition to low carbon, high well-being and resilient economies and communities.
10. Formulate participatory practices for new approaches to the ecological design process that include a range of stakeholders in the full lifecycle of projects.

Personal and enabling skills

11. Self-evaluate and reflect on own values and behaviours in order to improve personal and/or professional practice.
12. Use visual, verbal and written communication and appropriate media (including sketching, modelling and digital and electronic techniques) to represent the testing, analysis and critical appraisal of complex design proposals and their resolution to a range of specialist and non-specialist audiences.
13. Critically evaluate the ethical implications of individual and group work and proactively formulate solutions.

A0.3 Programme Learning Outcomes: PG Certificate Ecological Design Thinking

A0.3a Aims of the Programme: PG Certificate Ecological Design Thinking

The programme is intended to:
1. To develop the student's knowledge and understanding of the principles and practices of Ecological Design Thinking to enable them to develop key insights into potential transition pathways for communities to low carbon, high well-being and resilient places and systems;
2. To acknowledge and develop the whole person as a participant in the co-creation of these transition pathways;

A0.3b Programme Intended Learning Outcomes (LO): PG Certificate Ecological Design Thinking
By the end of this programme the student will be able to:

Setting
1. Critically evaluate the relationship between ecological design thinking and the related disciplines of economics and ecology and its application to design.

Knowledge and Understanding
2. Critically describe the theoretical and experiential understanding of an ecological world view (ecology, systems thinking, complexity science, Gaia theory) and its application to the design of systems, objects and places.
3. Critically describe the theoretical and experiential understanding of critiques of the neoclassical economic model from alternative schools of thought and its application to the design of systems, objects and places.
4. Critically appraise the theoretical frameworks, histories, tools, methods and case studies related to ecological design thinking and their application to design.
5. Identify, select and use sources of knowledge and evidence of design, market, policy and institutional failures that give rise to crises in our economic, social, ethical and ecological systems.

Cognitive Skills
6. Critically engage with the theoretical literature demonstrating the ability to analyse, evaluate, compare and contrast, synthesise and work creatively with conflicting ideas and uncertainty.

Personal and enabling skills
7. Self-evaluate and reflect on own values and behaviours in order to improve personal and/or professional practice.

A1   Brief Description of the Programme

This MA in Ecological Design Thinking has been developed as a partnership between Schumacher College and the School of Architecture, Design and Environment at University of Plymouth, with the support of the Design School at Carnegie Mellon University and with input from a range of leading practitioners in the fields of ecological design, ecology, systems-and resilience thinking, facilitation and new economics.

The programme is rooted in a deep ecological understanding and an appreciation of socio-political dynamics and their relationship to the design of settlements, buildings and systems. Ecological design thinking is an emergent inter-disciplinary field that aims to catalyse and nurture the transition to high well-being post-carbon futures.

Students on the course will develop an understanding of ecological systems, social-economic systems and design practices through the term 1 modules in the environs of the college providing an evidence-base for experimentation in the studio modules in term 2 (studio-based and short project placement).

Students will experiment with new ways of working first in studio where they will apply the principles of ecological design, and then through short placements on live projects with partner organisations locally and potentially around the world. They will be introduced to facilitation and participation techniques, and will be encouraged to explore the co-production of both the design and the full lifecycle of projects.

The course will help to create a global network of design educators and practitioners able to respond dynamically to pressing economic, social and ecological challenges. There will be a particular focus in the studio sessions on the design of settlements and the connected ecological and social systems and services. Students will have the option of applying practices and insights to a wider range of systems in the dissertation module. Taught elements will include input from leaders in the fields of ecological design, ecology, climate change, new economics and social change from around the world.

This new programme contributes to, and enhances, a vibrant college-wide enquiry into sustainable living in collaboration with staff and students on the college's postgraduate programmes in Holistic Science, Sustainable Horticulture and Economics for Transition, as well as its wide-ranging short course programme.

A2   Programme Structure and Pathways

College: *Schumacher College*
Year: 2018/19
Course Code:
Full/Part Time: FT, PT routes available

A2.1   Programme Structure - MA in Ecological Design Thinking

Module Code	Module Title	Term	No of Credits	Level of Study
SCH5446	The Ecological Paradigm: Living Earth and the Anthropocene	SPR	20	7
SCH5447	Social and Political Economy: From system maintenance to system transformation	SPR	20	7
SCH5448	Ecological Design Thinking: Catalysing transformation	SPR	20	7
SCH5443	Ecological Design Thinking in Practice 1: Transforming the story of place	SU	30	7
SCH5444	Ecological Design Thinking in Practice 2: Transformation in action	SU	30	7
SCH5445	Ecological Design Thinking Dissertation	AU	60	7

A2.2   Programme Structure - PG Diploma in Ecological Design Thinking

Module Code	Module Title	Term	No of Credits	Level of Study
SCH5446	The Ecological Paradigm: Living Earth and the Anthropocene	SPR	20	7
SCH5447	Social and Political Economy: From system maintenance to system transformation	SPR	20	7
SCH5448	Ecological Design Thinking: Catalysing transformation	SPR	20	7
SCH5443	Ecological Design Thinking in Practice 1: Transforming the story of place	SU	30	7
SCH5444	Ecological Design Thinking in Practice 2: Transformation in action	SU	30	7

A2.3   Programme Structure - PG Certificate in Ecological Design Thinking

Module Code	Module Title	Term	No of Credits	Level of Study
SCH5446	The Ecological Paradigm: Living Earth and the Anthropocene	SPR	20	7
SCH5447	Social and Political Economy: From system maintenance to system transformation	SPR	20	7
SCH5448	Ecological Design Thinking: Catalysing transformation	SPR	20	7

A3   Award pathways for the programme:

A3.1   MA Ecological Design Thinking
The primary delivery mode is the MA: awarded on satisfactory completion of 180 M level credits comprising three core theoretical modules (60 Masters credits), two core studio modules (60 Masters credits) and a dissertation (60 Masters credits).

Students completing the three theoretical modules only (60 Masters credits) can gain a PG Certificate. Students completing the three theoretical modules (60 Masters credits) and the two studio modules (60 Masters credits) can gain a PG Diploma.

In some circumstances, for example if a student is only able to secure short periods of leave from full-time employment, or would otherwise be unable to complete the course for financial reasons, we will allow a student to attain their 180 M credits on a part-time basis according to the following scenarios:

  i.   Part-time pathway 1 (24 months): Students complete the core theoretical modules in the first term of Academic Year 1, and the core studio modules and dissertation in terms two and three of Academic Year 2 for the full Masters or the core theoretical modules in the first term of Academic Year 1 and the core studio modules in the second term of Academic Year 2 for the PG Diploma.

  ii.   Part-time pathway 2 (36 months): This pathway applies to the full Masters only. Students complete the core theoretical modules in the first term of Academic Year 1; the core studio modules in term two of Academic Year 2 and the dissertation in term three of Academic Year 3. The preferred part-time pathway would be model (i) but this will be considered where a student can provide a satisfactory rationale for taking this route.

Students completing the PG Certificate can only study full-time in the course of a single year. The preferred part-time pathway would be model (i) but model (ii) will be considered where a student can provide a satisfactory rationale for taking this route. There may be additional implications for overseas students. Schumacher College has its own sponsorship for international students and is able to deal with applications.

A3.2   PG Diploma Ecological Design Thinking
Satisfactory completion of the Core Theoretical and Core Studio Modules, totaling 120 M level credits.

Students can gain the Postgraduate Diploma in Ecological Design Thinking with the completion of the 60 credit Core Theoretical Modules taught in term 1, and the Core Studio Modules taught within one academic year. This could also be achieved over the course of two academic years according to Part-time pathway 1 described above, but the courses must be taken sequentially.

A3.3   PG Certificate in Ecological Design Thinking
Satisfactory completion of the Core Modules, totaling 60 Masters level credits.

Students can gain the Postgraduate Certificate in Ecological Design Thinking with the completion of the 60 credit Core Modules taught in term 1, within one academic year.

A4   Graduate Opportunities

Experience from Schumacher College's existing Masters programmes, and market research for this programme suggests that most students who enter the programme are already on a career path, that will be transformed or enhanced by the completion of a Masters course, or have a well-defined career goal often involving an entrepreneurial project or enterprise.

Key skills and attributes the students will develop over the course include:
- The ability to think holistically and creatively about complex social and ecological challenges, and apply insights from Gaia theory, resilience thinking, systems thinking, complexity and apply solutions from alternative economics to those challenges;
- Powerful visual communication skills: the ability to identify, explore and solve problems collectively, and to communicate complex ideas visually;
- Powerful facilitation skills including charrette and other group facilitation techniques;
- Creative analysis tools including: multi-criteria evaluation, meta-plan, problem tree analysis, logframe etc.; and the ability to develop project-specific tools.

A5   Any Exceptions to University of Plymouth Regulations

Students cannot apply for exemption from any modules through APEL (Assessment of Prior Experiential Learning) or APCL (Assessment of Prior Certificated Learning). The Ecological Design Thinking postgraduate programme, similar to the College's three other postgraduate programmes, is a learning journey established on the foundations of a socio-ecological perspective. In the earlier modules design methodologies and methods provide insights for our inquiry into this perspective and, in the latter modules, the nature of design within a socio-ecological paradigm is explored through practice. The PG Certificate in Ecological Design Thinking focuses on the former and the PG Diploma in Ecological Design Thinking on the latter; the MA Dissertation is an opportunity for the student to contextualise both in a situation relevant to their interest. The importance the College places on this learning journey of inquiry and practice makes it impractical to replace modules via APEL or APCL.

B0   Teaching Methods and Assessments

(This should be cross-referenced with the individual learning outcomes for the MA Ecological Design Thinking, the PG Diploma Ecological Design Thinking and the PG Certificate Ecological Design Thinking)

A: Development of Knowledge and Understanding	Learning and Teaching Strategy
By the end of the programme the student will: • Have a deep, systemic and critical understanding of an ecological world view (ecology, systems thinking, complexity science, Gaia theory) and analyse the implications for, and application to, design; • Have a deep, systemic and critical understanding of critiques of the neoclassical economic model from alternative schools of thought and analyse their implications for, and applications to, design thinking; • Have a deep, systemic and critical understanding of the theoretical frameworks, main debates, tools, methods and case studies related to ecological design thinking and flexibly and creatively apply them to contemporary problems; • Have a systemic understanding of the relationship between the environment and built form, behaviour, well-being and resource consumption using both research evidence and case studies, and their application to ecological design thinking; • Be able to identify, select and creatively apply sources of knowledge and evidence of design, market, policy and institutional failures that give rise to crises in our economic, social, ethical and ecological systems.	**Primary** • Lectures, seminars and tutorials • Fieldwork • Practical classes • Project supervision • Guided independent study **Secondary** • Supervised in-studio
NB: Benchmark References	**Assessment**
There are no directly applicable subject benchmarks for this programme, however, in preparing the learning outcomes, reference has been made to the most directly relevant, the 2010 Architecture benchmarks at Masters level.	Key knowledge and understanding is assessed via a design project or artistic project with an academic commentary, or an academic essay and a design project dissertation or research dissertation.

B: Cognitive and Intellectual Skills	Learning and Teaching Strategy/Method
By the end of the programme the student will be able to: • Critically develop and systematically test, analyse and appraise design options drawing original conclusions and displaying methodological and theoretical rigour; • Critically engage with the theoretical literature demonstrating the ability to analyse, evaluate, compare and contrast, synthesise and work creatively with conflicting ideas and uncertainty in developing new solutions to complex problems; • Develop original insight into cultural narratives and socio-economic behaviours through reflective processes, and generate transformative solutions; • Identify a research topic to address a significant area of practice, plan and develop a project design, analyse the issue using an appropriate methodology, synthesise findings, reflect on the process and display appreciation of the ethical dimensions of the project.	**Primary** • Practical classes • Fieldwork • Lectures, seminars and tutorials • Project supervision • Guided independent study **Secondary** · Supervised in-studio
NB: Benchmark References	**Assessment**
There are no directly applicable subject benchmarks for this programme, however, in preparing the learning outcomes, reference has been made to the most directly relevant, the 2010 Architecture benchmarks at Masters level.	Key cognitive and intellectual skills are assessed via a design project or a creative project with an academic commentary, or an academic essay and a design or research dissertation.

C: Performance and practice	Learning and Teaching Strategy/Method
By the end of the programme the student will be able to: • Manage their own learning, and make use of scholarly reviews and primary resources (e.g. refereed research articles and/or original materials appropriate to ecological design); • Co-create theoretical principles for a new approach to design for the transition to a low carbon, high well-being and resilient economies drawing on innovation and best practice across a range of disciplines; • Co-create participatory practices for new approaches to the ecological design process that include a range of stakeholders in the full lifecycle of projects; • Work and learn autonomously and with others; • Apply learning to improve personal and professional practice and team work as a leader or member.	**Primary** • Practical classes • Supervised in-studio • Fieldwork • Project supervision • Guided independent study **Secondary** • Lectures, seminars and tutorials
NB: Benchmark references There are no directly applicable subject benchmarks for this programme, however, in preparing the learning outcomes, reference has been made to the most directly relevant, the 2010 Architecture benchmarks at Masters level.	**Assessment** Key performance and practice is assessed via a design project or creative project (such as a film, event or composition) with an academic commentary, or an academic essay and a design or research dissertation. In-studio, assessment will be made of: critical reflection of own and group practice, ability to resolve professional and ethical issues associated with proposed designs, facilitation skills, team and organisational working and the ability to manage the implications of ethical dilemmas and work proactively with others to solve them. Assessment will also be made of a personal transition plan demonstrating the student's ability to reflect on their own values, purpose and behaviour and to work through the role they can play in employing ecological design thinking to nurture positive responses to complex and inter-linked contemporary challenges.

D: Personal and enabling skills	Learning and Teaching Strategy/Method
By the end of the programme the student will be able to: • Self-evaluate and reflect on their own values and behaviours in order to improve personal and/or professional practice; • Use visual, verbal and written communication methods and appropriate media to represent the testing, analysis and critical appraisal of complex design proposals and their resolution to a range of specialist and non specialist audiences; • Critically evaluate the ethical implications of individual and group work and proactively formulate solutions.	**Primary** • Practical classes • Supervised in-studio • Fieldwork • Project supervision • Guided independent study **Secondary** • Lectures, seminars and tutorials
NB: Benchmark references There are no directly applicable subject benchmarks for this programme, however, in preparing the learning outcomes, reference has been made to the most directly relevant, the 2010 Architecture benchmarks at Masters level.	**Assessment** Key personal and enabling skills are assessed via a design project or a creative project with an academic commentary, or an academic essay and a design project or research dissertation. Assessment will also be made of a summary of a journal that relates learning to the student's own experience. This enables students to actively engage with the holistic learning model at Schumacher College (intellectual, intuitive, emotional, ethical and practical).

B.1   Distinctive Features of the Masters Degree

Special features:
- A design programme rooted in deep ecological understanding and informed by cutting edge thinking and practice in new economic approaches and social dynamics.
- Access to some of the world's leading ecological design practitioners, design practitioners and thinkers and practitioners in the fields of: Gaia theory, complexity theory, climate science, systems thinking, new economics and social change.
- Holistic teaching and learning approach within a living and working community on the edge of the Dartington Estate in Devon.
- Short practical placements with a range of partner organisations locally and around the world which include Transition Town Totnes, the Dartington Estate, the Atmos Project and the REconomy Project

B.2   Learning outcomes map

(To be cross-referenced with the individual learning outcomes for the MA Ecological Design Thinking, the PG Diploma Ecological Design Thinking and the PG Certificate Ecological Design Thinking)

Learning Outcomes Map	Level 7		
Graduate Attributes and Skills			
Core Programme Intended Learning Outcomes	**Programme aim**	**Programme Learning Outcome**	**Related Core Modules**
Setting Operates in complex and unpredictable and/or specialised contexts, requiring selection and application from a wide range of advanced techniques and information sources. Acts with initiative in decision-making and accessing support, within professional or given guidelines, accepting full accountability for outcomes.	2, 3	1	SCH5446 SCH5447 SCH5448 SCH5443 SCH5445
Knowledge and Understanding Has a deep and systematic understanding within a specialised field of study and its interrelationship with other relevant disciplines. Demonstrates an understanding of current theoretical and methodological approaches and how these affect the way the knowledge base is interpreted.	1	2,3,4,5	SCH5446 SCH5447 SCH5448 SCH5443, SCH5444 SCH5445
Cognitive Skills Uses ideas at a high level of abstraction. Develops critical responses to existing theoretical discourses, methodologies or practices and suggests new concepts or approaches. Designs and undertakes substantial investigations to address significant areas of theory and/or practice. Selects appropriate advanced methodological approaches and critically evaluates their effectiveness. Flexibly and creatively applies knowledge in unfamiliar contexts, synthesises ideas or information in innovative ways, and generates transformative solutions. Undertakes analysis of complex, incomplete or contradictory evidence/data and judges the appropriateness of the enquiry methodologies used. Recognises and argues for alternative approaches.	2.3	6,7,8	SCH5443, SCH5444 SCH5443, SCH5444 SCH5446,SCH5447, SCH5448 SCH5445
Performance and practice Autonomously adapts performance to multiple contexts. Autonomously implements and evaluates improvements to performance drawing on innovative or sectoral best practice. Works effectively with multiple teams as leader or member. Clarifies tasks and make appropriate use of the capacities of team members resolving likely conflicts before they arise. Incorporates a critical ethical dimension to their practice, managing the implications of ethical dilemmas and works proactively with others to formulate solutions.	3,4	9,10,11,12	SCH5448,SCH5443, SCH5444 SCH5443,SCH5444 SCH5443,SCH5444, SCH5445 SCH5448
Personal and enabling skills Uses personal reflection to analyse their selves and their actions. Makes connections between known and unknown areas, to allow for adaptation and change. Identifies, evaluates and maintains capabilities and qualities to support effective communication in a range of complex and specialised contexts.	3.4	12,13,14	All modules SCH5443 All modules SCH5443

3.0   Module Records

3.1   University of Plymouth Module Record: SCH5446
SECTION A: DEFINITIVE MODULE RECORD.

MODULE CODE: SCH5446	MODULE TITLE: The Ecological Paradigm: Living Earth and the Anthropocene

CREDITS: 20	FHEQ LEVEL: 7	JACS CODE: W290

PRE-REQUISITES: No	CO-REQUISITES: No	COMPENSATABLE: No

SHORT MODULE DESCRIPTOR: *(max 425 characters)*
This module will explore the behaviour of ecosystems, critical ecological thresholds and resilience. Students will critique, explore and begin to propose solutions from ecology & contemporary science to human settlements and systems. They will develop personal and group enquiry practices drawing on action research, reflective enquiry and learning journals and other research methods to raise awareness of the interdependent relationship between the individual, society and nature. This theoretical and empirical work will be developed as part of a design response to a given problem in SCH5443

ELEMENTS OF ASSESSMENT *[Use HESA KIS definitions}*

WRITTEN EXAMINATION		COURSEWORK		PRACTICE	
E1 (Formally scheduled)	0%	**C1**	100%	**P1**	0% or Pass/Fail
E2 (OSCE)	0%	**C2**	0%	**P3**	0% or Pass/Fail
T1 (in-class test)	0%	**A1**	0%		

SUBJECT ASSESSMENT PANEL Group to which module should be linked: MA Ecological Design Thinking

Professional body minimum pass mark requirement: N/A

MODULE AIMS: This module aims to:
- Apply principles from ecology and Gaia theory, dynamic systems thinking and complexity science to socio-cultural systems, settlements, artefacts and design scenarios illustrated with case studies;
- Differentiate between different concepts of sustainable design practice, and critically evaluate existing approaches to develop a personal ecological design philosophy (Ecosophy)
- Advance the transition to low-carbon high well-being futures;
- Develop personal and group enquiry practices to raise awareness of the interdependent relationship between the individual, society and nature & between theory, experience and practice.

ASSESSED LEARNING OUTCOMES: (additional guidance below)
At the end of the module the learner will be expected to be able to:
- Flexibly and creatively apply a theoretical and experiential understanding of an ecological world view drawn from one or more of the following: ecology and systems thinking; holism, goethian approaches; chaos and complexity science; and Gaia theory, to contemporary design challenges, synthesising ideas and information in innovative ways, and generating transformative solutions;
- Critically analyse, compare and contrast theoretical approaches to ecological design thinking and suggest new applications;
- Self-evaluate and reflect on their own values and behaviours in order to improve professional and personal awareness and practice.

DATE OF APPROVAL: 04/12/2013	**FACULTY/OFFICE:** Academic Partnerships
DATE OF IMPLEMENTATION: 12 January 2015	**SCHOOL/PARTNER:** Schumacher College
DATE(S) OF APPROVED CHANGE: June 2017	**TERM 1**

Additional notes (for office use only):

SECTION B: DETAILS OF TEACHING, LEARNING AND ASSESSMENT

Items in this section must be considered annually and amended as appropriate, in conjunction with the Module Review Process. Some parts of this page may be used in the KIS return and published on the extranet as a guide for prospective students. Further details for current students should be provided in module guidance notes.

ACADEMIC YEAR: 2018/19	**NATIONAL COST CENTRE:** 124
MODULE LEADER: Roberto Fraquelli	**OTHER MODULE STAFF:** Stephan Harding, Philip Franses; Ruth Potts; Mona Nasseri

Summary of Module Content

This foundational module will explore the history and evolution of understanding of the Earth's ecosystem, the latest understanding of critical ecological thresholds and theories of resilience, and their applications to, and implications for, design thinking.

Students will apply key principles of the ecological paradigm drawn from ecology and systems thinking, chaos and complexity science, and Gaia theory. They will explore applications (and the limitations) of applying principles from whole systems science to the built environment and the socio-cultural domain, exploring and critiquing existing frameworks and developing new approaches. The module will include deep ecology, personal and group enquiry practices to explore the interdependence between self, society, structure and nature. Students will map elements of the ecosystem of a given settlement applying and testing their understanding in the context of a particular place.

The theoretical and empirical work undertaken in this module will be developed as part of a design response to a given problem in module SCH5443. Students will be introduced to research methods such as, action research and reflective enquiry, learning journal, participatory learning methods and personal development planning.

SUMMARY OF TEACHING AND LEARNING *[Use HESA KIS definitions}*		
Scheduled Activities	**Hours**	**Comments/Additional Information**
Lecture	40	Presentations and workshops by faculty and visiting teachers provide students with knowledge, theories and methodologies from experts in the field.
Seminar	32	Students present their own work with the support of the group. Encourages active learning, peer-to-peer support and communication skills.
Tutorials	3	Each student will receive two tutorials over the course of the module, and one feedback session..
Research Methods Workshop	7	Students will be introduced to a range of research methods including Action Research, Learning Journals and Participative Enquiry.
Fieldwork	10	In keeping with Schumacher College's holistic approach to learning field trips will include immersive experiences in nature to better understand natural systems and cycles.
Practical classes	10	Encourages active pro-active learning through experience – emphasis will be placed on stimulations, exercises and role play.
Supervised in the studio	12	Design workshops will encourage students to visualise knowledge, theories and methodologies as part of their sense-making process.
Project supervision	10	Students will form learning groups to promote peer-to-peer learning and project development.
Guided independent study	76	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	**200**	**(NB: 1 credit = 10 hours of learning; 10 credits = 100 hours, etc)**

Category		*Component Name*	*Component weighting*	*Comments* Include links to learning objectives
Written exam	E_		0%	
	T_		0%	
Coursework	C1 C2	The Ecological Paradigm: Living Earth and the Anthropocene Learning journal	100%	This can be a design project or artistic project with an academic commentary, or an academic essay. Summary of a journal that relates learning to the student's own experience. This enables students to actively engage with the holistic learning model at Schumacher College (intellectual, emotional, ethical and practical).
Practice	P_		0%	

Updated by: Mona Nasseri/MN Date: 17/05/2018	**Approved by**:

Recommended texts and sources

- Abram, D. (1996) *The Spell of the Sensuous*. Pantheon, NY.
- Benyus, J.M., 2002. *Biomimicry*. Harper Perennial, New York.
- Campbell, Colin T. (2013) *Whole*. BenBella Books Inc. Dallas.
- Diamond, J. (2006) *Collapse*. Penguin Books. London.
- Drengson, A. & Devall, B. (Eds)(2008) *The Ecology of Wisdom. Writings by Arne Naess*. Counterpoint. Berkeley.
- Ehrenfeld, J.R. & Hoffman, A.J. (2013) *Flourishing*. Greenleaf Publs. Sheffield.
- Flinders, T. (Ed)(2013) *John Muir. Spiritual Writings*. Orbis Books. NY.
- Forbes, P., 2006. *The gecko's foot: bio-inspiration : engineering new materials from nature*. W. W. Norton & Co., New York.
- Foster, J. (2008) *The Sustainability Mirage*. Earthscan. London.
- Gunderson L.H. and Holling C.S. (2002) *Panarchy: Understanding Transformations in Human and Natural Systems*. Island Press, Washington DC
- Harding, S. (2006) *Animate Earth*. Green Books. Dartington.
- Harman, J., 2013. *The shark's paintbrush: biomimicry and how nature is inspiring innovation*. White Cloud Press, Ashland, Ore.
- Hawken,P (2018) *Drawdown: the most comprehensive plan ever proposed to roll back global warming.* Penguin Books. London
- Holmgren, D. (2009) *Future Scenarios*. Green Books. Dartington
- Jackson, W. (1996) *Becoming Native to this Place*. Counterpoint. Washington, DC.
- Kellert, S.R., Heerwagen, J., Mador, M., 2008. *Biophilic design: the theory, science, and practice of bringing buildings to life*. Wiley, Hoboken, N.J.
- Lane,J (2006) *Spirit of Silence: Making space for creativity*. Green book.
- Macfarlane, R. (2004) *Mountains of the Mind*. Granta books. London.
- Macy,J. Brown,M. Fox,Mattew. McIntosh, D. (2014) *Coming back to life : the updated guide to the work that reconnects*. New Society Publisher. Gabriola Island, British Colombia
- Mayne,M. (2008) *This sunrise of wonder-letter for the journey*. Longman & Todd Ltd, Darton
- Meadows D.H. (1997) *Places to Intervene in a System*. Whole Earth,
- Monbiot, G. (2013) *Feral*. Allen Lane. London.
- Orr, D.W. (2011) *Hope is an Imperative. The Essential David Orr*. Island Press. Washington DC.
- 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
- Wahl,D., (2016) Designing Regenerative Culture, Axminster: Triarchy press
- Walker B. And Salt D. (2006) *Resilience Thinking*. Island Press, Washington DC
- Weisman, A. (2008) A *World Without Us*. Virgin Books Ltd. London.
- Wilson, E.O. (1984) *Biophilia*. Harvard University Press. Camb. Mass.
- Whitefield,P. (2013) *The Earth Care Manual: A Permaculture Handbook for Britain and Other Temperate Climates.* Permanent publication. Hampshire
- Yung, C.G. Sabini, M (2008) the earth has a soul: the nature writing of C.G.Young. Noth Atlantic books. Barkley, Calif.

Websites:

- 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 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

3.2   University of Plymouth Module Record: SCH5447

SECTION A: DEFINITIVE MODULE RECORD.

MODULE CODE: SCH5447	MODULE TITLE: Social and Political Economy: From system maintenance to system transformation

CREDITS: 20	FHEQ LEVEL: 7	JACS CODE: W290

PRE-REQUISITES: No	CO-REQUISITES: No	COMPENSATABLE: No

SHORT MODULE DESCRIPTOR: *(max 425 characters)*
This module will explore the evolution of dominant economic, political and socio-cultural systems, identifying historic and emerging alternatives from around the world. Students will explore the role of design in catalysing transformation. They will critique, explore and propose solutions ranging from how we produce and consume energy, to patterns of work, settlements and finance. Theoretical and empirical work in this module will be developed as part of a design response to a given problem in SCH5443.

ELEMENTS OF ASSESSMENT *[Use HESA KIS definitions}*

WRITTEN EXAMINATION		COURSEWORK		PRACTICE	
E1 (Formally scheduled)	0%	**C1**	100%	**P1**	0% or Pass/Fail
E2 (OSCE)	0%	**C2**	0%	**P3**	0% or Pass/Fail
T1 (in-class test)	0%	**A1**	0%		

SUBJECT ASSESSMENT PANEL Group to which module should be linked: Ecological Design Thinking Subject Assessment Panel

Professional body minimum pass mark requirement: N/A

MODULE AIMS: This module aims to:
- Identify, select and analyse sources of knowledge and evidence of market, policy and institutional failures that give rise to systemic crises in our economic, social and ecological systems and the built environment;
- Critically appraise the theoretical model of neoclassical economics from a historical and socio-political perspective and from alternative schools of economic thought;
- Co-create principles for new approaches to design that could catalyse and support the transition to low-carbon, high well-being and resilient communities and societies;
- Develop future scenarios and critical paths for selected settlements or systems at a range of scales.

ASSESSED LEARNING OUTCOMES: (additional guidance below)
At the end of the module the learner will be expected to be able to:
- Flexibly and creatively identify, select and analyse sources of knowledge and evidence of market, policy and institutional failures that give rise to systemic crises in our economic, social and ecological systems and the built environment.
- Assess the impact on, and implications for, ecological design thinking of both neoclassical and alternative approaches synthesising ideas or information in innovative ways, proposing transformative solutions;
- Critically engage theoretical literature and evidence of practice to co-create theoretical principles for a new approach to social and economic systems that could catalyse and support the transition to low carbon, high well-being and resilient societies and communities;

DATE OF APPROVAL: 04/12/2013	FACULTY/OFFICE: Academic Partnerships
DATE OF IMPLEMENTATION: 12 January 2015	SCHOOL/PARTNER: Schumacher College
DATE(S) OF APPROVED CHANGE: June 2017	TERM 1

Additional notes (for office use only):

SECTION B: DETAILS OF TEACHING, LEARNING AND ASSESSMENT
Items in this section must be considered annually and amended as appropriate, in conjunction with the Module Review Process. Some parts of this page may be used in the KIS return and published on the extranet as a guide for prospective students. Further details for current students should be provided in module guidance notes.

ACADEMIC YEAR: 2018/19	NATIONAL COST CENTRE: 129
MODULE LEADER: Ruth Potts	OTHER MODULE STAFF: Roberto Fraquelli, Mona Nasseri, Tim Crabtree, Michael Martin

Summary of Module Content

This module builds on the understanding developed in the first module and uses it to understand the social, political and economic worlds as a complex and interrelated series of systems. Students will explore the evolution of social, political and economic systems, their interrelation, implication for design and the potential for design to expose and transform imbalances of power in the socio-political system.

The module will include an overview of the history of the evolution of economic thought; analysis & evidence of systemic failures of neoclassical economics; a theoretical critique of the neoclassical economics paradigm from alternative schools of thought; practical examples of the new economy. Students will analyse power and power structures in social, political and economic systems, explore alternative theories of social organisation, well-being, values and frames, the relationship between human behaviour and the design and evolution of settlements and systems. These insights will be applied to future thinking and scenarios. Students will critique, explore and begin to propose design-based solutions to complex contemporary challenges from the way that we produce and consume energy, to patterns of work, settlements and the finance system. Theoretical and empirical work in this module will be developed as part of a design response to a given problem in SCH5443.

SUMMARY OF TEACHING AND LEARNING *[Use HESA KIS definitions}*		
Scheduled Activities	**Hours**	**Comments/Additional Information**
Lecture	40	Presentations and workshops by faculty and visiting teachers provide students with knowledge, theories and methodologies from experts in the field.
Seminar	30	Students present their own work with the support of the group. Encourages active learning, peer-to-peer support and communication skills.
Tutorial	3	Each student will receive two tutorials over the course of the module.
Practical classes	10	Encourages active pro-active learning through experience – emphasis will be placed on stimulations, exercises and role play.
Fieldwork	10	In keeping with Schumacher College's holistic approach to learning field trips will include visits to practical projects and initiatives to better understand processes of change and dynamic systems.
Supervised in studio	25	Design workshops will encourage students to visualise knowledge, theories and methodologies as part of their sense-making process.
Project supervision	10	Students will form learning groups to promote peer-to-peer learning and project development.
Guided Independent Study	72	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	**20**	**(NB: 1 credit = 10 hours of learning; 10 credits = 100 hours, etc)**

Category		*Component Name*	*Component weighting*	*Comments* Include links to learning objectives
Written exam	E_		0%	
	T_		0%	
Coursework	C1 C2_	Social and Political Economy: From system maintenance to system transformation Personal Transition Plan	100%	This can be a design project or a creative project (such as a short film, or a composition) with an academic commentary, or an academic essay. Theoretical frameworks (such as Max Neef's Framework for Human Needs) and reflective enquiry practices help students reflect on their own values, purpose and behaviour and to work through the role they can play in employing ecological design thinking to develop transformative responses to complex challenges.
Practice	P_		0%	

Updated by: Mona Nasseri (MN) Date: 17/05/2018	**Approved by**: Date:

Recommended texts and sources

- Arthur B. (2013) *Complexity Economics: A Different Framework for Economic Thought*, SFI Working Paper: 2013-04-012 http://tuvalu.santafe.edu/~wbarthur/Papers/Comp.Econ.SFI.pdf
- Bollier, D. and Helfrich, S (2013) *The Wealth of the Commons* http://wealthofthecommons.org/
- Boyle D. and Simms A. (2009) *The New Economics: A Bigger Picture, Earthscan* (especially Chapters 1 & 2)
- Coote, A, Franklyn, J and Simms, *A* (2010) *21 Hours: Why A Shorter Working Week Can Help Us All To Flourish In The Twenty-First Century*. [on-line] http://www.neweconomics.org/publications/entry/21-hours
- Crompton, T (2010) *Common Cause: The Case for Working with Cultural Values*, WWF: Godalming **http://assets.wwf.org.uk/downloads/common_cause_report.pdf**
- Earle, J, Moran, C and Ward-Perkins, Z (2016) *The Econocracy: The Perils of Leaving Economics to the Experts*, Manchester University Press
- Eisenstein C. (2011) *Sacred Economics: Money, Gift and Society in the Age of Transition*, Evolver Editions
- Graeber D. (2011) *Debt: The First 5,000 Years*, Melville House, New York Heinberg R. And Learch D. (2010) The Post Carbon Reader: Managing the 21st
- Lewis M. and P. Conaty (2012) *The Resilience Imperative: Cooperative Transitions to a Steady-state Economy*, New Society
- Jackson T. (2011) *Prosperity Without Growth: Economics for a Finite Planet*, Earthscan
- Meadows, D, Randers, (2004) J and Meadows, D, *Limits to Growth: The 30-year Update*, Chelsea Green Publishing
- Manfred Max-Neef, Antonio Elizade and Martin Hopenhayn (1991*) Human Scale Development*
- Mellor, M, (2015) *Debt or Democracy: Public Money for Sustainability and Social Justice*, Pluto Press
- Murray R. (2009) *Danger and Opportunity: Crisis and the New Social Economy*. Social Innovation Series, The Young Foundation and The Lab, NESTA
- Ostrom,E. (1991) *Governing the Commons: The Evolution of Institutions for Collective Action*
- PIRC, (2011) *The Common Cause Handbook*, PIRC (Public Information Research Centre: **http://valuesandframes.org/downloads/**
- Raworth, Kate, (2018) *Doughnut Economics: Seven Ways to Think Like a Twenty-First Century Economist,* Cornerstone
- Schumacher, E.F. (1973) *Small is Beautiful: Economics as if People Mattered*
- Scharmer O, Kaufer K (2013) *Leading from the Emerging Future: From Ego-System to Eco-System Economies.* Berrett-Koehler, San Francisco
- Scott-Cato M, (2012) *The Bioregional Economy: land, Liberty and the Pursuit of Happiness*, London: Earthscan
- Solnit, R (2009) *A Paradise Built in Hell: The Extraordinary Communities that Arise in Disaster*
- Thackara,J (2017) *How To Thrive In The Next Economy Designing Tomorrow's World Today*. Thames and Hudson. London
- Wilkinson R. and Pickett K. (2010) *The Spirit Level*, Penguin, London.
- nef (2009) *Happy Planet Index 2.0*, [on-line] http://www.happyplanetindex.org/public-data/files/happy-planet-index-2-0.pdf

SECTION A: DEFINITIVE MODULE RECORD.

MODULE CODE: SCH5448	MODULE TITLE: Ecological Design Thinking: Catalysing transformation

CREDITS: 20	FHEQ LEVEL: 7	JACS CODE: W290

PRE-REQUISITES: No	CO-REQUISITES: No	COMPENSATABLE: No

SHORT MODULE DESCRIPTOR: *(max 425 characters)*
This module examines Ecological Design as an approach that works with ecological and human systems. It explores practices that consider circular resource use and echo nature. Participants will develop and enhance communication, facilitation and charrette skills and explore co-production as a full lifecycle approach. They will begin to develop their own theories and methodologies. Theoretical and empirical work in this module will be developed as part of a design response to a given problem in SCH5443.

ELEMENTS OF ASSESSMENT *[Use HESA KIS definitions}*

WRITTEN EXAMINATION		COURSEWORK		PRACTICE	
E1 (Formally scheduled)	0%	**C1**	100%	**P1**	0% or Pass/Fail
E2 (OSCE)	0%	**C2**	0%	**P3**	0% or Pass/Fail
T1 (in-class test)	0%	**A1**	0%		

SUBJECT ASSESSMENT PANEL Group to which module should be linked: Ecological Design Thinking Subject Assessment Panel

Professional body minimum pass mark requirement: N/A

MODULE AIMS: This module aims to:
- Critically assess the history and emergence of the practice of Design;
- Engage students in debate and discussion from different perspectives to gain knowledge and understanding of the key debates in design across selected themes;
- Introduce tools, methods and facilitation practices including co-production as a lifetime approach to project delivery;
- Develop and enhance communication and facilitation skills and in support of communities of place and interest;
- Explore and begin to develop new approaches to working within complex systems.

ASSESSED LEARNING OUTCOMES: (additional guidance below)
At the end of the module the learner will be expected to be able to:
- Flexibly and creatively apply understanding of the theoretical frameworks and the main debates related to selected topics in design thinking and ecological design thinking to contemporary challenges, in innovative ways, and generate transformative solutions;
- Autonomously implement and evaluate improvements to practice drawing on theoretical and experiential understanding of models of change through multi-disciplinary frameworks, tools and methods;
- Experiment with, and analyse the efficacy of, participatory practices for new approaches to ecological design processes that include a range of stakeholders in the full lifecycle of projects, managing the implications of ethical dilemmas and working proactively with others to formulate solutions.

DATE OF APPROVAL: 04/12/2013	FACULTY/OFFICE: Academic Partnerships

DATE OF IMPLEMENTATION: 12 January 2015	SCHOOL/PARTNER: Schumacher College
DATE(S) OF APPROVED CHANGE: June 2017	**TERM 1**

Additional notes (for office use only):

SECTION B: DETAILS OF TEACHING, LEARNING AND ASSESSMENT
Items in this section must be considered annually and amended as appropriate, in conjunction with the Module Review Process. Some parts of this page may be used in the KIS return and published on the extranet as a guide for prospective students. Further details for current students should be provided in module guidance notes.

ACADEMIC YEAR: 2018/19	NATIONAL COST CENTRE: 123
MODULE LEADER: Mona Nasseri	OTHER MODULE STAFF: Roberto Fraquelli, Ruth Potts

Summary of Module Content

This module will introduce, and interrogate, key methodological approaches to Ecological Design Thinking using case studies, practical challenges and scenario planning to critically analyse and explore a range of existing methodologies and approaches, and encourage participants to develop their own. Methodologies and practices explored in this module may include industrial symbiosis, cradle to cradle design, zero carbon and energy design, biomimicry, building biology and permaculture design.

Studies of theoretical texts will deepen theoretical and critical understanding of a broad range of issues affecting communities such as the process of urbanisation, mobility, technology, socio-cultural patterns, political and economic dynamics, and emergent consequences locally, nationally and globally. The module will also explore tensions between the act of design (in which interventions are often about imposing form/order) ecological principles (emergence, self-organization etc.) and social, political and economic power dynamics. Participants will be encouraged to develop approaches that might help to overcome these tensions, and to begin to explore what emergent 'ecological design thinking' looks like in practice. Theoretical and empirical work in this module will be developed as part of a design response to a given problem in SCH5443.

SUMMARY OF TEACHING AND LEARNING *[Use HESA KIS definitions}*		
Scheduled Activities	**Hours**	**Comments/Additional Information**
Lecture	34	Presentations and workshops by faculty and visiting teachers provide students with knowledge, theories and methodologies from experts in the field.
Seminar	35	Students present their own work with the support of the group. Encourages active learning, peer-to-peer support and communication skills.
Tutorials	3	Each student will receive two tutorials over the course of the module.
Practical classes	12	Encourages active pro-active learning through experience – emphasis will be placed on stimulations, exercises and role play.
Fieldwork	10	In keeping with Schumacher College's holistic approach to learning field trips will include visits to urban, peri-urban and rural landscapes to better understand the influence of design on processes of change and dynamic systems.
Supervised in studio	25	Design workshops will encourage students to visualise knowledge, theories and methodologies as part of their sense-making process.
Project supervision	10	Students will form learning groups to promote peer-to-peer learning and project development.
Research Methods Workshop	6	Students will be introduced to a range of additional Research Methodologies appropriate for Design Projects.
Guided Independent Study	65	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	200	**(NB: 1 credit = 10 hours of learning; 10 credits = 100 hours, etc)**

Category		*Component Name*	*Component weighting*	*Comments* Include links to learning objectives
Written exam	E_		0%	
	T_		0%	
Coursework	C1_	Ecological Design Thinking: Catalysing Transformation	100%	This can be a design project or artistic project with an academic commentary, or an academic essay.
Practice	P_		0%	

Updated by: Mona Nasseri Date: 17/05/2018	**Approved by**:

Recommended texts and sources

- Brown,T., (2009) *Change by Design: How Design Thinking Transforms Organizations and Inspires Innovation*. Harper Business, New York.
- Brown, V-A., Harris, J-A. and Russell, J-Y. (2010) *Tackling Wicked Problems through the Trans-disciplinary Imagination*. London: Earthscan Publications Ltd.
- Cowperthwaite, W (2007) *A Handmade Life: in Search of Simplicity*. Chelsea Green Publishing. Vermont
- Cross, N., (2011) *Design thinking: understanding how designers think and work*. Berg, Oxford; New York.
- Fry, T., (2009) *Design Futuring: Sustainability, Ethics, and New Practice*. Berg, Oxford; New York.
- Gauntlett, D., (2011) *Making Is Connecting: The Social Meaning Of Creativity From DIY And Knitting To Youtube And Web 2.0*. Polity Press, Cambridge UK ;;Malden MA.
- Koskinen, I.K. et al., (2011). *Design Research Through Practice from The Lab, Field, And Showroom*, Waltham, MA: Morgan Kaufmann.
- Manzini,E,. Coad,R,.(2015) *Design, When Everybody Design(An Introduction To Design For Social Innovation*).Cambridge, Massachusetts, London, MIT Press.
- Martin, R.L., (2009) *The Design Of Business: Why Design Thinking Is The Next Competitive Advantage*. Harvard Business Press, Boston, Mass.
- Schön, D., (1983) *The Reflective Practitioner: How Professionals Think In Action*. Basic Books, New York.
- Schrage, M-D. (1999) *Serious Play: How The World's Best Companies Simulate To Innovate*. Boston: Harvard Business School Press.
- Valentine, L. (ed.), *Prototype: Design And Craft In The 21st Century*, London: Bloomsbury.
- Warfel, T-Z. (2009) *Prototyping: A Practitioner's Guide*. New York: Rosenfeld Media

3.4   University of Plymouth Module Record: SCH5443

SECTION A: DEFINITIVE MODULE RECORD.

MODULE CODE: SCH5443	MODULE TITLE: Ecological Design Thinking in Practice 1: Transforming the story of place

CREDITS: 30	FHEQ LEVEL: 7	JACS CODE: W290

PRE-REQUISITES: No	CO-REQUISITES: No	COMPENSATABLE: No

SHORT MODULE DESCRIPTOR: *(max 425 characters)*
This module explores the principles, processes and practices of ecological design thinking in the context of a given place. Students will pursue group investigations that include the study of precedents and the identification of issues and sites to develop project briefs and designs in response to particular contexts that increase the resilience of social and ecological systems. The selected settlement studied will build on and draw from the theoretical and empirical work in modules SCH5446, SCH5447 and SCH5448.

ELEMENTS OF ASSESSMENT *[Use HESA KIS definitions}*

WRITTEN EXAMINATION		COURSEWORK		PRACTICE	
E1 (Formally scheduled)	0%	C1	100%	P1	0% or Pass/Fail
E2 (OSCE)	0%	C2	0%	P3	0% or Pass/Fail
T1 (in-class test)	0%	A1	0%		

SUBJECT ASSESSMENT PANEL Group to which module should be linked: Ecological Design Thinking Subject Assessment Panel

Professional body minimum pass mark requirement: N/A

MODULE AIMS: This module aims to:
- Provide participants with the theoretical and practical skills to work with models of ecological design thinking as a response to current sustainability challenges at a range of scales from local to global and apply them flexibly and innovatively to a particular context, generating transformative solutions;
- Develop and enhance design, communication, facilitation and charrette skills in support of communities of place and interest.
- Analyse complex, incomplete and contradictory evidence in a given context and develop a creative brief in response to the identified challenges, judging the appropriateness of methodologies used and developing alternative approaches.
- Synthesise theoretical and practical understanding and practices to co-develop transformative approaches to sustainable communities.

ASSESSED LEARNING OUTCOMES: (additional guidance below)
At the end of the module the learner will be expected to be able to:
- Demonstrate an understanding of, and a response to, the nature of the 'wicked problem' with respect to ecological design thinking in practice;
- Critically develop, deliver and evaluate design proposals which demonstrate methodological and theoretical rigour.
- Co-create participatory practices for new approaches to ecological design that include a range of stakeholders in the full lifecycle of projects;

DATE OF APPROVAL: 04/12/2013	FACULTY/OFFICE: Academic Partnerships

DATE OF IMPLEMENTATION: 12 January 2015	SCHOOL/PARTNER: Schumacher College
DATE(S) OF APPROVED CHANGE: June 2017	**TERM 2**

Additional notes (for office use only):

SECTION B: DETAILS OF TEACHING, LEARNING AND ASSESSMENT
Items in this section must be considered annually and amended as appropriate, in conjunction with the Module Review Process. Some parts of this page may be used in the KIS return and published on the extranet as a guide for prospective students. Further details for current students should be provided in module guidance notes.

ACADEMIC YEAR: 2018/19	NATIONAL COST CENTRE: 123
MODULE LEADER: Roberto Fraquelli	**OTHER MODULE STAFF:** Ruth Potts; Mona Nasseri,

Summary of Module Content

This module applies the understanding and practices developed in module SCH5446, SCH5447, and SCH5448 to a particular design problem in a settlement. Students will analyse the context, develop briefs and undertake precedent analysis in developing their projects.

They will critically examine the ecological, social, economic and cultural context of the given site and systematically test design solutions through a range of communication methods that address the identified issues. They will use Dartington's and the wider Totnes (and/ or Plymouth) landscape to explore different ecological design practices.

Assessments will be made of the students' ability to critically reflect on the theoretical context of their project drawn from the knowledge and practices gained in the first three modules, and to apply that knowledge in innovative and practical ways, and their ability to facilitate diverse groups and engage in collaborative processes of enquiry.

SUMMARY OF TEACHING AND LEARNING *[Use HESA KIS definitions}*		
Scheduled Activities	**Hours**	**Comments/Additional Information**
Seminar	20	These will be short workshops in the design studio helping students to develop design skills.
Tutorial	90	Tutorials will be in groups or one to one discussing specific issues related to developing designs.
Fieldwork	30	Field work will involve visiting and collecting data from a particular site including interviewing individuals and recording context information.
Independent study	160	
Total	300	**(NB: 1 credit = 10 hours of learning; 10 credits = 100 hours, etc)**

Category		*Component Name*	*Component weighting*	*Comments* Include links to learning objectives
Written exam	E_		0%	
	T_		0%	
Coursework	C1_	Ecological Design Thinking in Practice 1: Transforming the story of place Critical reflection	100%	This will be a portfolio submission of a design project accompanied by an academic commentary of 1,000 words. Critical reflection of own and group practice over the course discussing professional and ethical issues associated with proposed designs.
Practice	P_		0%	

Updated by: Mona Nasseri (MN) Date: 17/05/2018	**Approved by**:

Recommended texts and sources

- Arrow, H., McGrath, J.E. & Berdahl, J.L., 2000. *Small groups as complex systems formation, coordination, development and adaptation*, Thousand Oaks, CA: Sage Publications.
- Axelrod, R.M., 1997. *The complexity of cooperation: agent-based models of competition and collaboration*, Princeton, N.J.: Princeton University Press.
- Charlton, N.G. (2008*). Understanding Gregory Bateson.* SUNY
- Cooke, B. & Kothari, U., 2001. *Participation: the new tyranny?*, London; New York: Zed Books
- De Quincey, C. (2010). *Radical Nature: The Soul of Matter.* Perk Street Press
- Harding, S.P. (2009). *Animate Earth: Science, Intuition and Gaia.* Green Books
- Ingold, T. (2011). *Being Alive: Essays on Movement, Knowledge and Description.* Routledge
- Katzenbach, J.R. & Smith, 1993. *The wisdom of teams: creating the high-performance organization*, Boston, Mass.: Harvard Business School Press
- Mang,P. Haggard,B. Regebesis (2016) *Regenerative Development and Design: a framework for evolving sustainability.*
- Senge, P. et al., 2011. *Presence Exploring Profound Change in People, Organizations and Society.*,London: Nicholas Brealey Pub
- Wellins, R.S., Byham, W.C. & Wilson, J.M., 1991. *Empowered teams: creating self-directed work groups that improve quality, productivity, and participation*, San Francisco: Jossey-Bass.
- White, S.A., Nair & Ascroft, J.R., 1994. *Participatory communication: working for change and development*, New Delhi; Thousand Oaks, Calif.: Sage

SECTION A: DEFINITIVE MODULE RECORD.

MODULE CODE: SCH5444	**MODULE TITLE:** Ecological Design Thinking in Practice 2**:** Transformation in action

CREDITS: 30	**FHEQ LEVEL: 7**	**JACS CODE: W290**

PRE-REQUISITES: No	**CO-REQUISITES:** No	**COMPENSATABLE:** No

SHORT MODULE DESCRIPTOR: *(max 425 characters)*
This module further explores and develops the principles, processes and practices of ecological design thinking with short placements with partners. Students will work in small teams to explore a live issue identified by placement organisations and develop proposals in response. Proposals may include designs for building, spaces or systems, or strategies for these organisations. Students will be asked to both critically reflect on the work they undertake from a theoretical, ethical and professional context.

ELEMENTS OF ASSESSMENT *[Use HESA KIS definitions}*

WRITTEN EXAMINATION		COURSEWORK		PRACTICE	
E1 (Formally scheduled)	0%	**C1**	100%	**P1**	0% or Pass/Fail
E2 (OSCE)	0%	**C2**	0%	**P3**	0% or Pass/Fail
T1 (in-class test)	0%	**A1**	0%		

SUBJECT ASSESSMENT PANEL Group to which module should be linked: Ecological Design Thinking Subject Assessment Panel

Professional body minimum pass mark requirement: N/A

MODULE AIMS: This module aims to:
- Provide participants with the theoretical and practical skills to work with models of ecological design thinking as a response to current sustainability challenges at a range of scales from local to global;
- Apply the principles and methods of ecological design thinking to a variety of contexts;
- Develop participants' theoretical knowledge and experiential understanding of different models of individual and social change and the role of design in supporting transformation;
- Develop group facilitation and engagement skills and methods of co-production;
- Develop participants' communication skills in presenting complex information, engaging diverse audiences and different perspectives.

ASSESSED LEARNING OUTCOMES: (additional guidance below)
At the end of the module the learner will be expected to be able to:
- Critically evaluate a range of ecological design-based strategies to respond to the complex needs of a particular context, organisation or community;
- Undertake substantial investigations into the relationship between the environment the community;
- Self-evaluate and reflect on their own values and behaviours to improve professional and personal awareness, practice and teamwork, autonomously implementing and evaluating improvements to performance drawing on innovative best practice.

DATE OF APPROVAL: 04/12/2013	**FACULTY/OFFICE:** Academic Partnerships
DATE OF IMPLEMENTATION: 12 January 2015	**SCHOOL/PARTNER:** Schumacher College

DATE(S) OF APPROVED CHANGE: June 2017	TERM 2

Additional notes (for office use only):

SECTION B: DETAILS OF TEACHING, LEARNING AND ASSESSMENT
Items in this section must be considered annually and amended as appropriate, in conjunction with the Module Review Process. Some parts of this page may be used in the KIS return and published on the extranet as a guide for prospective students. Further details for current students should be provided in module guidance notes.

ACADEMIC YEAR: 2018/19	NATIONAL COST CENTRE: 123
MODULE LEADER: Ruth Potts	**OTHER MODULE STAFF:** Roberto Fraquelli, Mona Nasseri

Summary of Module Content
The fifth module applies the understanding and practices developed in the first four modules, first through a short group project, and then in a short project placement developed in collaboration with a range of partner organisations.

Assessments will be made of the students' ability to build on knowledge and practices gained in the first four modules, and to apply that knowledge in innovative and practical ways in a dynamic live context. They will experiment with facilitating diverse groups, engaging in collaborative processes of enquiry. Students may work in small groups on a design project, a process plan, or a roadmap for a process.

SUMMARY OF TEACHING AND LEARNING *[Use HESA KIS definitions}*

Scheduled Activities	Hours	Comments/Additional Information
Seminar	20	These will be short workshops in the design studio helping students to develop their design skills, and in short preparatory exercises.
Tutorials	90	Tutorials will be in groups or one to one discussing specific issues related to developing designs.
Fieldwork/placement	40	Fieldwork will involve visiting and collecting data with the project partner including interviewing individuals and recording contextual information.
Independent study	150	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)**

Category		Component Name	Component weighting	Comments *Include links to learning objectives*
Written exam	E_		0%	
	T_		0%	
Coursework	C1_	Ecological Design Thinking in Practice 2**:** Transformation in Action Project Development Assessment	100%	This can be a design project or artistic project with an academic commentary, or an academic essay. Assessment will be made of participants' facilitation skills, team and organisational working and ability to manage the implications of ethical dilemmas and work proactively with other to solve them.
Practice	P_		0%	

Updated by: Mona Nasseri (MN) Date: 15/05/2018	**Approved by**:

Recommended texts and sources
- Aberley, D., (1993) *Boundaries Of Home: Mapping For Local Empowerment*, Gabriola Island, B.C.: New Society Publishers.
- Haraway, D (2016) *Staying With The Trouble: Making Kin in the Chthulucene* (Experimental Futures) Duke University Press Books
- Hodgson, J., Hopkins, R. & Transition Town Totnes (Organization), (2010) *Transition In Action: Totnes And District 2030, An Energy Descent Action Plan*, Totnes: Transition Town Totnes.
- Macy, J and Johnstone, C, (2012) *Active Hope: How to Face The Mess We're in without Going Crazy*,. New World Library
-
- Meadows, D, (2009) *Thinking in Systems A Primer*, Donella H Meadows, Earthscan
-
- Neal, L, (2015) *Playing for Time: Making Art as if the World Mattered*, Oberon
- Scharmer O, Kaufer K (2018) *The Essentials of Theory U: Core Principles and Applications,* Berrett-Koehler Publishers

3.6   University of Plymouth Module Record: SCH5445

SECTION A: DEFINITIVE MODULE RECORD.

MODULE CODE: SCH5445	MODULE TITLE: Ecological Design Thinking: Dissertation

CREDITS: 60	FHEQ LEVEL: 7	JACS CODE: W290

PRE-REQUISITES: No	CO-REQUISITES: None	COMPENSATABLE: No

SHORT MODULE DESCRIPTOR: *(max 425 characters)*
The dissertation enables students to pursue an Ecological Design Thinking project of their own interest, or an academic essay interrogating the further evolution of Ecological Design Thinking and practice.

ELEMENTS OF ASSESSMENT *[Use HESA KIS definitions}*

WRITTEN EXAMINATION		COURSEWORK		PRACTICE	
E1 (Formally scheduled)	0%	C1	100%	P1	0% or Pass/Fail
E2 (OSCE)	0%	C2	0%	P3	0% or Pass/Fail
T1 (in-class test)	0%	A1	0%		

SUBJECT ASSESSMENT PANEL Group to which module should be linked: Ecological Design Thinking Subject Assessment Panel

Professional body minimum pass mark requirement: N/A

MODULE AIMS: This module aims to:
- Enable students to undertake a substantial investigation that addresses significant areas of Ecological Design Thinking and practice;
- Extend students' powers of critical evaluation drawing on, and synthesising a range of ideas and information in innovative ways in a substantial investigation addressing a significant area of theory and/or practice;
- Further develop students' ability to facilitate diverse groups in uncertain and changing circumstances, respond to dynamic and changing circumstances, and co-develop holistic solutions to complex problems;
- Develop the skills and confidence necessary to carry out innovative Ecological Design Thinking projects in other areas once the taught elements of the degree have been completed.

ASSESSED LEARNING OUTCOMES: (additional guidance below)
At the end of the module the learner will be expected to be able to:
- Critically evaluate and develop Ecological Design Thinking-based strategies that respond to the needs of a particular context, organisation or community;
- Critically develop and systematically test, analyse and appraise their own inquiries, drawing original conclusions and displaying methodological and theoretical rigour;
- Critically engage with the theoretical literature relevant to the context they are working in, demonstrating the ability to analyse, evaluate, compare and contrast, synthesise solutions for the given context;
- Experiment with, and analyse the efficacy of, new approaches to design for the transition to low carbon, high well-being and resilient communities, economies and systems;
- Make a contribution to the development of ecological design thinking.

DATE OF APPROVAL: 04/12/2013	FACULTY/OFFICE: Academic Partnerships

DATE OF IMPLEMENTATION: 12/01/2015	SCHOOL/PARTNER: Schumacher College
DATE(S) OF APPROVED CHANGE: June 2017	TERM 3

Additional notes (for office use only):

SECTION B: DETAILS OF TEACHING, LEARNING AND ASSESSMENT

Items in this section must be considered annually and amended as appropriate, in conjunction with the Module Review Process. Some parts of this page may be used in the KIS return and published on the extranet as a guide for prospective students. Further details for current students should be provided in module guidance notes.

ACADEMIC YEAR: 2018/19	NATIONAL COST CENTRE: 123
MODULE LEADER: Mona Nasseri	OTHER MODULE STAFF: Ruth Potts, Roberto Fraquelli

Summary of Module Content
The dissertation module enables students to undertake a substantial investigation that addresses significant areas of Ecological Design Thinking and practice.
Assessments will be made of the students' ability to apply knowledge gained over the course of the taught elements of the Masters in innovative and practical ways in a dynamic live, or exploratory, context.
Students may work in small groups on a design project, or independently. They may also produce an academic dissertation relating to the evolution of Ecological Design Thinking. Students will be provided with a list of potential titles and projects, or are free to develop their own in consultation with the Primary Dissertation Supervisor.
A one-day seminar on research methodology will be provided in term one, and on practical approaches to design project management at the start of term two.

SUMMARY OF TEACHING AND LEARNING *[Use HESA KIS definitions}*		
Scheduled Activities	**Hours**	**Comments/Additional Information**
Research skills and methods	12	The programme lead for Ecological Design Thinking in consultation with the Programme Tutor will design and deliver a day-long workshop on appropriate research methods in term 1, and a follow-on day-long workshop in term 2.
Supervision	20	The Primary Dissertation Supervisor will be expected to provide 20 hours of support and advice over the course of the dissertation or dissertation project.
Peer-to-peer learning	10	Students will be encouraged to participate in regular self-organised peer-to-peer learning workshops over the course of the dissertation or dissertation project.
Project	558	Students will be expected the capacity to devise, develop and deliver an Ecological Design Thinking project, or academic dissertation that advances Ecological Design Thinking, managing their time and the dissertation process, critically analysing both the discipline and their own practice. They are expected to demonstrate innovative and independent practice at this stage, either individually or working as part of a small group.
Total	600	**(NB: 1 credit = 10 hours of learning; 10 credits = 100 hours, etc)**

Category		Component Name	Component weighting	Comments *Include links to learning objectives*
Written exam	E_		0%	
	T_		0%	
Coursework	C1_	Ecological Design Thinking: Dissertation Project	100%	This can be a design project or artistic project with an academic commentary of 2,500 words, or an academic essay of 10-15,000 words (including references and bibliography).
Practice	P_		0%	

Updated by: Mona Nasseri (MN) Date: 15/05/2018	**Approved by**:

Recommended texts and sources

- Bryman, A. (2008) *Social Research Methods.* 3rd edn. Oxford: Oxford University Press.
- Bryman, A. and Bell, E. (2011) *Business Research Methods.* 3rd edn. Oxford: Oxford University Press.
- Creswell, J.W., 1998. *Qualitative Inquiry And Research Design: Choosing Among Five Traditions*, Thousand Oaks, Calif.: Sage Publications.
- Dixon J.A., Scura L.F., Carpenter R.A., and Sherman P.B. (1996) *Economic Analysis of Environmental Impacts,* London: Earthscan
- Gill, J. and Johnson, P. (2010) *Research Methods for Managers.* 3rd edn. London: Sage.
- IIED (1997) *Valuing the Hidden Harvest: Methodological Approaches for Local level Economic Analysis of Wild Resources.* Research Series Vol 3 No 4.
- Mason, J. (2002) *Qualitative Researching.* 2nd edn. London: Sage.
- Moser, C.A. and Kalton, G. (1993) *Survey Methods in Social Investigation.* 3rd edn. London: Heinemann.
- Reason P. And Bradbury H. (eds) (2008) *The Sage Handbook of Action Research,* Sage Publications, London.
- Robson, C., 2002. *Real World Research: A Resource For Social Scientists And Practitioner-Researchers*, Oxford, UK; Madden, Mass.: Blackwell Publishers.
- Sayer, A. (2010) *Method in Social Science.* Rev. 2nd edn. London: Routledge.
- Simonsen, J., 2010. *Design Research: Synergies From Interdisciplinary Perspectives*, New York: Routledge.
- Zeisel, J., 1981. *Inquiry By Design: Tools For Environment-Behavior Research*, Monterey, Calif.: Brooks/Cole Pub. Co.

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