

IL129-15 An Introduction to Design Thinking Theory and Practice

22/23

Department

Institute for Advanced Teaching and Learning

Level

Undergraduate Level 3

Module leader

Robert O'Toole

Credit value

15

Module duration

10 weeks

Assessment

100% coursework

Study location

University of Warwick main campus, Coventry

Description

Introductory description

Introduction to Design Thinking welcomes students from every discipline who are committed to becoming effective “change agents” – people who will improve the world through business, academic research, or social innovation, using a “designerly” approach that combines creativity, technology and empathy.

It doesn't matter if you think you are not especially creative, or that you haven't got design skills – we will teach these as systematic methods using leading experts from Warwick and beyond. This is an opportunity to develop a much-in-demand combination of skills and ideas, giving you a significant advantage in your future career and studies. Most importantly, you will learn how to interpret the world and work with real people as design participants, safely take creative risks, learn from prototypes, and be agile and iterative. Students develop the stack of capabilities necessary for being “designerly change agents”. We visualise this as a transformative journey.

[Module web page](#)

Module aims

This module aims to provide an induction into Design Thinking as research and practice. It gives

the students a framework, based on experience and research, that they can use to better understand and transform the world through innovation and enterprise. The module aims to be a transformative experience for the students, giving them a powerful set of capabilities through which they can interpret and change the world around them, with positive social and economic impacts. After completing the module, students will have a powerful and far reaching “designerly” way of thinking and acting (Lawson, 2005).

Outline syllabus

This is an indicative module outline only to give an indication of the sort of topics that may be covered. Actual sessions held may differ.

The syllabus has two inter-related tracks – theory (lectures and readings) and practice (interactive lecture activities, workshops and design challenges). The design challenges, written-up in the format of “design studies”, provide content for the assessed portfolio.

The five design challenges are:

- A. Reflect on your own design history.
- B. Doing design anthropology in the wild.
- C. Investigate fit, stick, spread and grow in action.
- D. Making Warwick University a place for enterprise and innovation.
- E. How do we solve the ‘wicked problem’ (Buchanan, 1992) of engaging disenfranchised and fragmented communities in cultural development without adding new layers of alienation?

Learning outcomes

By the end of the module, students should be able to:

- Demonstrate a proficient and deep understanding of the core concepts of ‘design’, ‘designing’, ‘designer’, ‘designerliness’ and ‘design thinking’.
- Critically reflect upon and evaluate their progress in understanding the importance of key design issues and values, such as accessibility, diversity, viability and sustainability.
- Critically appraise the contributions made to design research by different disciplines and recognise the emerging trends and approaches in design practice and research, for example, design anthropology, crowdsourced designing, platform engineering, decolonizing design, emotionally durable design, artificial intelligence and non-anthropocentric designing.
- Critically evaluate designs-in-use and proposed design ideas, from the perspectives of key stakeholders, applying appropriate design values.
- Explore a design challenge, being prepared to take a lead in formulating a clear and actionable brief, using participatory, empathetic and creative methods.
- Critically evaluate the selection and application of different design methods when applied to design challenges with varying goals and complexities.

Indicative reading list

All freely available online, these articles are the essential readings for the module:

Alexander, C. (1965) "A City is Not a Tree".

Argyris, C. (1977) "Double Loop Learning in Organizations".

Brooks, F. (1986) "Essence and Accident in Software Design".

Brown, T. (2008) "Design Thinking".

Buchanan, R. (1992) "Wicked Problems in Design Thinking".

Dovey, K. (1990) "The Pattern Language and its Enemies".

Eisbach, K. (2003) "How to Pitch a Brilliant Idea".

Kelley, T. (2001) "Prototyping is the Shorthand of Design".

Leonard, D. and Rayport, J. F. (1997) "Spark Innovation Through Empathic Design".

Suchman, L. (2011) "Anthropological Relocations and the Limits of Design".

Teece, D. (2007) "Explicating Dynamic Capabilities: The Nature and Microfoundations of (Sustainable) Enterprise Performance".

Weiser, M., R. Gold, and J. S. Brown. (1999) "The Origins of Ubiquitous Computing Research at PARC in the Late 1980s."

Students will be directed to explore the many articles by Dori Tunstall on "decolonized design anthropology and designing": <https://theconversation.com/profiles/elizabeth-dori-tunstall-105620/articles>

And we will use the High Resolution series of video interviews with designers and design theorists: https://www.youtube.com/channel/UCzBkNPSxw15qrW_Y8p-oCUw

Books (that students can refer to for specific needs to explore further and deeper):

Alexander, C. (1977) *A Pattern Language: Towns, Buildings, Construction*.

Amabile, T. et al. (1999) *Harvard Business Review on Breakthrough Thinking*.

Bilton, C. (2006) *Management and Creativity: From Creative Industries to Creative Management*.

Brown, T. (2009) *Change by Design: How Design Thinking Transforms Organizations and Inspires Innovation*.

Chapman, J. (2005) *Emotionally Durable Design*.

Clark, H., and D. Brody. (2009) *Design Studies*.

Cross, N. (2007) *Designerly Ways of Knowing*.

Cross, N. (2011) *Design Thinking*.

Csikszentmihalyi, M. (2009) *Flow*.

Gunn, W., Ton, O., and Smith, R. C. (2013) *Design Anthropology: Theory and Practice*.

Jencks, C., and N. Silver. (2013).
Kahneman, D. (2011) Thinking, Fast and Slow.
Kelley, T., and J. Littman. (2004) The Art of Innovation.
Kelley, T., and J. Littman. (2005) The Ten Faces of Innovation.
Krug, S. (2009) Don't Make Me Think.
Lawson, B. (2005) How Designers Think: The Design Process Demystified.
Margolin, V., and R. Buchanan. (1995) The Idea of Design.
Norman, D.A. (1988) The Psychology of Everyday Things. Basic Books.
Norman, D. A. (2007a) Emotional Design. Basic Books.
Norman, D. A. (2007b) The Design of Future Things. Basic Books.
Norman, D. A. (2013) The Design of Everyday Things. Basic Books.
Polanyi, M. (1966/2009) The Tacit Dimension.
Rogers, E. M. (2003) Diffusion of Innovations.
Schön, D. A. (1987) Educating the Reflective Practitioner.
Sennett, R. (2009) The Craftsman.
Thaler, R. H., and C. R. Sunstein. (2008) Nudge.

Research element

Design thinking challenges students to conduct research in several ways. They explore literature around the module and make connections to key concepts from their home disciplines. Students then conduct interviews, ethnographies, observations, surveys, and other types of user research, taking research methods they learn in their home disciplines and applying those to design. They additionally conduct research about the local area when working on design challenges to understand the culture, history, demographics, etc.

Interdisciplinary

Design Thinking theory is a rapidly coalescing interdisciplinary academic field, seeking to understand and improve how we do designing and how it can have a positive impact in the world. Design Thinking draws upon insights from a broad range of disciplines (philosophy, psychology, sociology, creative arts, technology, history)

International

Drawing on various global methodologies and case studies, we touch upon the use and significance of design in developed and developing worlds. The nature of classroom discussions draws on students' diverse backgrounds and we often explore design stories from a range of

countries and context. Design challenges have also been structures in a way to help students think global and act local, designing for the local area. This zooming in and out, internationalisation and localisation of design helps students develop a more global mindset and applications of design thinking.

Subject specific skills

- Effectively and efficiently describe designs-in-action and their contexts, using a range of appropriate media.
- Critically evaluate designs-in-use and proposed design ideas, from the perspectives of key stakeholders, applying appropriate design values.
- Specify and respond to briefs with precision.
- Explore a design challenge, formulating a clear and actionable brief, using participatory, empathetic and creative methods.
- Choose, and justify the choice of, appropriate design methods for addressing a specific design challenge.
- Use a broad selection of design methods for working with designers, domain experts and others, to collaboratively create good design ideas: prototyping, testing, refining, documenting and preparing for implementation.
- Reflect upon, using designerly language and media (text, images, video, audio, diagrams) design projects, and the roles played by the student and their collaborators in achieving success and learning from failures.
- Lead design collaborations using appropriate leadership styles, and be able to explain the choices made.
- Propose and explain changes to the organisation, practices and strategy of an institution of business, so as to enhance design capabilities its design capabilities.

Transferable skills

- Analytical skills
- Complex problem solving
- Coordinating with others
- Creativity
- Critical reflection
- Critical thinking
- Judgement and decision making
- Management of learning
- Managing others/People Management
- Written communication skills
- Verbal communication skills

Study

Study time

Type	Required	Optional
Lectures	10 sessions of 1 hour (17%)	
Tutorials	(0%)	10 sessions of 1 hour
Practical classes	10 sessions of 2 hours (33%)	
Private study	30 hours (50%)	
Total	60 hours	

Private study description

Private study hours include background reading, completing reading/other tasks in preparation for timetabled teaching sessions and follow-up reading work.

Costs

No further costs have been identified for this module.

Assessment

You must pass all assessment components to pass the module.

Assessment group A

	Weighting	Study time
e-Portfolio (3000 words)	100%	90 hours
3000 words for 15 CATS students (1500-word academic-style essay plus 3 x 300-word magazine-style design studies and 1 x 600-word design study).		

Effective use of audio, video, diagrams and photos can replace up to 50% of the word count in the design studies.

"Magazine style" means written for and interesting to a general non-specialist audience, using Design Thinking ideas to help them to understand a design challenge, a design idea or an implemented design.

Feedback on assessment

Each of the design challenges will be addressed by the students in small teams (the size of the teams varies depending on the challenge). They will peer review each other's contributions using a structured format, and provide feedback on presentations (live and online) of other teams' studies. Team work and constructive peer feedback is essential to the design thinking approach. In addition, the teaching team will provide feedback on each presentation. We are also intending to have each design challenge brief presented (in person or on video) by a domain expert, for example, the City of Culture challenge will be initiated by an expert from a successful Coventry cultural organisation (possibly the Highly Sprung theatre company).

Drop-in consultancy sessions will be available for one hour each week during weeks 6, 7 and 8, to which students are encouraged to bring work in progress. The essay will be developed in three drafting stages, and peer feedback encouraged. Feedback will be given on the completed portfolios, as they will go on to be used by the students to assist their further development of design thinking capabilities, projects and careers.

Availability

Courses

This module is Core optional for:

- Year 3 of ULFA-C1A6 Undergraduate Biochemistry with Industrial Placement (MBio)

This module is Optional for:

- Year 3 of UFIA-W620 Undergraduate Film Studies
- Year 4 of UFIA-W621 Undergraduate Film Studies (with Year Abroad)
- Year 4 of UFIA-QW26 Undergraduate Film and Literature (with Study Abroad)

This module is Option list A for:

- Year 3 of UFIA-QW25 Undergraduate Film and Literature

This module is Option list B for:

- Year 3 of UBSA-C700 Undergraduate Biochemistry
- ULFA-C1A2 Undergraduate Biochemistry (MBio)
 - Year 3 of C1A2 Biochemistry
 - Year 3 of C700 Biochemistry
- Year 4 of ULFA-C702 Undergraduate Biochemistry (with Placement Year)
- UBSA-3 Undergraduate Biological Sciences
 - Year 3 of C100 Biological Sciences
 - Year 3 of C100 Biological Sciences
- Year 3 of ULFA-C1A1 Undergraduate Biological Sciences (MBio)
- Year 4 of ULFA-C113 Undergraduate Biological Sciences (with Placement Year)
- Year 3 of ULFA-C1A5 Undergraduate Biological Sciences with Industrial Placement (MBio)
- UBSA-C1B9 Undergraduate Biomedical Science
 - Year 3 of C1B9 Biomedical Science
 - Year 3 of C1B9 Biomedical Science
 - Year 3 of C1B9 Biomedical Science
- ULFA-C1A3 Undergraduate Biomedical Science (MBio)
 - Year 3 of C1A3 Biomedical Science
 - Year 3 of C1B9 Biomedical Science
- Year 3 of ULFA-C1A7 Undergraduate Biomedical Science with Industrial Placement (MBio)
- ULFA-CB18 Undergraduate Biomedical Science with Placement Year
 - Year 4 of CB18 Biomedical Science with Placement Year

- Year 4 of CB18 Biomedical Science with Placement Year
- Year 4 of CB18 Biomedical Science with Placement Year
- Year 3 of ULFA-B140 Undergraduate Neuroscience (BSc)
- Year 3 of ULFA-B142 Undergraduate Neuroscience (MBio)
- Year 3 of ULFA-B143 Undergraduate Neuroscience (with Industrial Placement) (MBio)