

PhD course

Design science perspectives on innovation & entrepreneurship research

Flyer & Program Outline

June 23-25, 2025

This PhD course is offered by the [ITEM](#) group of the department of Industrial Engineering & Innovation Sciences at Eindhoven University of Technology, in cooperation with [EuroTech](#) Universities. It is endorsed by the TU/e Graduate Program Industrial Engineering.¹

¹ This course is offered every two years, with earlier versions running in 2021, 2019, and so forth. After we ran the course fully online in 2021, we've returned to on-campus mode for the courses running as of 2023. The Jean-Baptiste Say Institute for Entrepreneurship (ESCP, Berlin) offers a similar course on design science in the other years; accordingly, the first course in Berlin was offered in May 2024.

Aim & Learning Goals

This intensive course is specifically designed for students in a doctoral or MPhil program. We assume you have extensive knowledge of basic theories of entrepreneurship, business design and innovation management. This PhD course provides you with in-depth knowledge of Design Science (DS) approaches in the field of innovation and entrepreneurship. The main objective is that participants develop an in-depth understanding of the key frameworks, concepts, models, and paradigms that collectively form the DS foundation for research in this field. In addition, you learn how to review DS-based articles and how to publish work informed by DS in top journals in the field of innovation and entrepreneurship. To complete the course, each participant has to write and deliver a short paper.

Program

The program outline of the course is given below. Six weeks before the start of the course, registered participants will receive a detailed course manual (with readings and assignments). All sessions are conducted on-campus in Eindhoven:

Monday June 23, 2025, 9:30-12:30

Entrepreneurship, innovation and design (Georges Romme)

Studies of entrepreneurship, innovation and design are increasingly complementary and feeding on each other. This also reflects Herbert Simon's idea of business research as a design science (DS) that promotes the interaction between science- and design-oriented research. This introductory session serves to discuss several DS notions and frameworks and then zooms into how to formulate good research questions in a doctoral project informed by DS.

Monday June 23, 2025, 13:30-17:00

Conducting a systematic literature review in a design science project (Duygu Keskin & Isabelle Reymen)

Systematic literature reviews (SLRs) are a cornerstone of DS methodology. They play a vital role in building a solid knowledge foundation. They serve to map the problem space by identifying existing studies and highlighting areas that have not been explored yet; they also shape the solution space and inform the development of solutions by identifying relevant theories and existing solutions. This session starts with exploring the position of a systematic literature review in a DS project. We then discuss how to conduct a SLR, by offering examples, tools and templates.

Tuesday June 24, 9:00-12:30

Design principles in design science (Isabelle Reymen)

This session explores several DS outputs and specifically the pivotal role of design principles in DS. How can we shape design principles by drawing on systematic literature reviews and/or empirical findings? How do design principles inform the development and prototyping of solutions? How to publish work on design principles? As an example, design principles for

effectuation are discussed. And the session ends with an exercise focusing on how your research can be set up as design science research.

Tuesday 24 June, 13:30-17:00

Designing and evaluating artifacts (Duygu Keskin)

This session focuses on the creation of artifacts that bridge the gap between research and real-world application. We'll explore instrumental models and tools as prime examples of these "boundary objects." Through engaging discussions and interactive exercises, this session offers insights into the value of artifacts, designing effective artifacts and iterative testing of artifacts.

Wednesday 25 June, 9:00-12:30

Open Innovation (Marcel Bogers & Jason Li-Ying)

Open innovation entails a distributed innovation process that involves knowledge flows across organizational boundaries. This session explores the state of the art of open innovation research, considering various conceptual and empirical perspectives. We also discuss the implications for designing innovation processes as well as the organizational systems in which these processes take place.

Wednesday 25 June, 13:30-17:00

Design experiments in new product development (Philip Cash)

The rigor of experimental innovation, NPD, and entrepreneurship is often rather limited. This session explores how theory-driven, methodologically rigorous design experiments can be used to both enhance real-world outcomes and deliver robust scientific knowledge. Various examples of recent work drawing on design experiments are discussed.

Instructors

- *Marcel Bogers* is full professor of Open & Collaborative Innovation at Eindhoven University of Technology.
- *Philip Cash* is full professor at Northumbria University's School of Design (UK).
- *Duygu Keskin* is assistant professor in Design, Entrepreneurship & Sustainability at Eindhoven University of Technology
- *Jason Li-Ying* is full professor of Innovation & Corporate Entrepreneurship at the Technical University of Denmark (DTU).
- *Isabelle Reymen* is full professor in Design of Innovation Ecosystems at Eindhoven University of Technology.
- *Georges Romme* is full professor of Entrepreneurship & Innovation at Eindhoven University of Technology.

Assignment for Completing the Course

To complete this course, you have to participate in all sessions as well as deliver a final paper. The purpose and contents of this paper are adapted to your needs and preferences. That is, you can write and deliver:

- either a first draft of your *doctoral research proposal* informed by design science; you can adopt the structure and layout that are required by your own university; or
- or a *reflection paper* in which you reflect on whether and how you accomplished your learning objectives (formulated before starting the course) and any unexpected learnings arising from the course.

In both cases, the minimum length of the proposal/paper is 8 pages (single-spaced) and 4000 words (excluding references).

Administrative and Application Details

The participation fee is €750 for external participants. This fee covers participation in all sessions and access to all course materials; it also includes one dinner.

Participants successfully completing the course will obtain a certificate. Successful completion implies that you have participated in all sessions (incl. any assignments in those sessions) and have delivered a final paper that was assessed as sufficient by the course coordinators. The course has a study load of 6 ECTS. The maximum number of participants is 25.

Interested students should apply before March 15, 2025. Doctoral students of EuroTech universities are given priority, but only if the application is received before the deadline with all the required documents (see below). Your application by email to item.ieis@tue.nl should contain the following documents (as attachments to your email message):

- Motivation letter
- Curriculum vitae
- *Optional:* your PhD research proposal (if you already have one).

Please send your application by e-mail, with your personal details (name, address, affiliation) and the required attachments to item.ieis@tue.nl

Cancellations

The ITEM group, as the organizer of this course, retains the right to cancel the course up to 5 weeks in advance. All registered (non-EuroTech) participants will then get their registration fee reimbursed. Registered participants can cancel their registration (with full reimbursement of the fee) until 15 May 2025. No reimbursement on cancelled registrations will be possible after that date.

Organizer

The prime organizer of this doctoral course is the [ITEM](#) group of the TU/e department of Industrial Engineering & Innovation Sciences. Course coordinator: Georges Romme (a.g.l.romme@tue.nl). Administrative support: Astrid Baltus (item.ieis@tue.nl), +31-40-2472170