CARLETON UNIVERSITY
SCHOOL OF INDUSTRIAL DESIGN

COURSE OUTLINE IDES 5102F • DESIGN RESEARCH METHODS • Fall (2022)

Instructor: **Juan Jimenez**

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Location: **2496 Mackenzie**

Office Hours: by appointment (email)

Time and Location: Please refer to Carleton Central under Student Services – Registration – Search Schedule: https://central.carleton.ca/prod/bwysched.p_select_term?wsea_code=EXT

Course Description

A critical review of qualitative and quantitative research methods to support interdisciplinary design. Methods used by collaborators from the sciences and humanities as well as methods designers bring to interdisciplinary collaborations are introduced. Research for design, research through design and theoretical frameworks are discussed. The course serves as a platform for students to start exploring topics, design methodologies, methods, and tools in the development of their master's thesis.

Includes: Experiential Learning Activity.
Also listed as HCIN 5404.

Learning Outcomes

By the end of this course, students will be able to:

1. Critically review the literature on research approaches or theoretical frameworks.
2. Identify and select appropriate qualitative and quantitative research methods.
3. Design and evaluate research methods and a methodology appropriate to a study's objectives.
4. Plan a design research study.

5. Create an ethics application.

6. Effectively communicate a research approach and rationale through written, visual and oral mediums.

7. Demonstrate professional behaviour.

Course Deliverables

These are the deliverables for this course. Please see 'Appendix A Course content' and 'Appendix B course structure' for more detailed information.

Deliverable 1: **Scoping.** Reflections on Scientific Research vs. Design Research (Conceptual mapping) 20%

Deliverable 2: **Conceptualization.** Documenting and visualizing insights (Visual narrative) 25%

Deliverable 3: **Communication.** Designing research – Informing research planning and proposal (Pitching research) 25%

Deliverable 4: **Envisioning.** Designing futures – Informing in-the-field insights and envisioning (Narrative probes & Future envisioning) 30%

Student Access to Quiz, Test and Exam Papers

Examinations are for evaluation purposes only and will not be returned to the student.

Required Materials

Materials required for the course are listed below. You may be asked by your instructor to refer to Brightspace for a more comprehensive list of required materials.

Most of the content used in this course can be found in academic repositories or scholarly literature available on internet, such as Google Scholar or Researchgate.

1) Bont, de, C., Ouden, den, P. H., Schifferstein, H. N. J., Smulders, F. E. H. M., & Voort, van der, M. (Eds.) (2013). Advanced design methods for successful innovation. Design United.

2) Dorst, Kees. (2006). Design Problems and Design Paradoxes. Design Issues. 22. 4-17. 10.1162/desi.2006.22.3.4.

3) Frankel, L., and Racine, M. (2010) The Complex Field of Research: for Design, through Design, and about Design, in Durling, D., Bousbaci, R., Chen, L, Gauthier, P., Poldma, T., Roworth-Stokes, S. and Stolterman, E (eds.), Design and Complexity - DRS International Conference 2010, 7-9 July, Montreal, Canada.

4) Horvath, Imre. (2007). Comparison of three methodological Approaches of design research.

5) Laurel, B. (2003). Design research: Methods and perspectives. Cambridge, Mass: MIT Press.

6) Muratovski, G. (2016). Research for Designers. Los Angeles CA: Sage Publications

7) Nelson, W. (2013). Design, Research, and Design Research: Synergies and Contradictions. Educational Technology, 53(1), 3-11. Retrieved August 19, 2021, from http://www.jstor.org/stable/44430111

Computer Requirements

Please refer to the computer requirements on the School of Industrial Design Website. You may be asked by your instructor to refer to Brightspace for other information or requirements related to computer work.

http://www.id.carleton.ca/undergraduate/about-the-bid-program/computer-requirements

Individual/Group Work

Courses may include individual and group work. It is important in collaborative work that students clearly demonstrate their individual contributions.

Review/Presentation Attendance

Attendance at scheduled SID Reviews/Presentations is mandatory. These are equivalent to exams when indicated in the course outline. Failure to attend the Review/Presentation without reasonable cause, will result in a grade of F. Students arriving late for the Review/Presentation or not remaining for the complete session without approval from the instructor, will be addressed on a case-by-case basis at the discretion of the instructor.

If you are not able to attend a Review/Presentation, foresee arriving late or need to leave before it is complete, please email your instructor in advance explaining the reason for the situation. It is important that you provide a reasonable rationale for your absence, late arrival or early departure. In the event of an illness or death in the family, you will be required to sign a form verifying your claim and this form is available through the SID administration office.

Late Submission of Lecture & Studio Deliverables

Students who do not hand in deliverables on time will have their earned grade reduced by 10% per day up to a maximum of 3 days.

Regulation on Minimum Grade Requirements

A grade of B- or better must be obtained in each credit counted towards the master's degree. The School does not permit exceptions to this rule.

Students will be required to withdraw from the program if their grade point average falls below 7.0 (B-), or if they receive a grade of less than B- in any two courses that are eligible to be counted toward the Master's degree.

For more information on General Regulations, please refer to:
https://calendar.carleton.ca/grad/gradprograms/design/#regulationstext

Participation and Professionalism

Active participation and professional conduct (e.g. class discussion, consultations with instructors, work ethic, etc.) are important in lecture and studio courses and may be formally evaluated by a grade. Professionalism also includes Carleton's Policy on Academic Integrity described in more detail below with links to content which you are required to review.

Academic Integrity: Plagiarism and Other Violations

In the School of Industrial Design, students are expected to have read and understand the University's definition of plagiarism and related offences in Carleton's policy on Academic Integrity at https://carleton.ca/registrar/academic-integrity/

The definition of plagiarism extends to copying designs, design ideas, research tools, etc. in whole or in part belonging to someone else, failing to acknowledge the sources through the use of proper citations when using another's work in any medium.

The school takes these misconduct offences seriously and will take appropriate action as outlined in Carleton's Academic Integrity policy (see link above).

Requests for Academic Accommodation

You may require special arrangements to meet your academic obligations during the term. For an accommodation request for any of the following topics below, refer to the link provided for more information: https://students.carleton.ca/course-outline/

- *Parental Leave*
- *Religious/Spiritual Obligation*
- *Academic Accommodations for Students with Disabilities*
- *Survivors of Sexual Violence*
- *Accommodations for Student Activities*

Student Responsibility

The student is responsible for knowing the content of this course outline; the schedule of classes, assignments, and/or Reviews; and the material that was covered when absent. The studio is a professional environment and students should be working during the scheduled hours.

Unless otherwise arranged, the class will meet during scheduled class hours. Please note that attendance is important since issues and questions may be raised in class, and announcements made, along with information disseminated through Brightspace. As external professionals are often involved in our work, scheduling changes for guest lectures, presentations, and Reviews may occur at short notice, requiring students to stay informed.

Changes to the Course Outline

The course outline may be subject to change in the event of extenuating circumstances.

Appendix A - Course content

a) Reflections on Scientific Research vs. Design Research

This section discusses a basic, yet important question: What is research? This will lead us to discuss the relationship between design, design research and scientific research. What makes research scientific? Why is design appropriating the scientific method? Reflecting on these questions will help students position themselves within a research-oriented scope to develop their master's thesis.

b) Understanding the design problem vs. the research problem

Framing “the problem” is the first step in any design-oriented or design research-oriented project. However, it is important to identify the “research problem” and the “phenomenon” we want to intervene in. Different disciplines ask for a more holistic understanding of the problem. For this, it is important to characterize the main components, breaking down big concepts into bite-sized pieces to prioritize those we could contribute from a scientific approach.

a) Design paradigms and research planning

Design is a relatively young discipline. We have borrowed some “ways to conduct scientific research” from other disciplines, such as sociology, psychology, and engineering to later adapt them to our “way of doing things”. This has created a wide repertory of methodologies, approaches, frameworks, methods, and tools at our disposal. Recognizing which one to appropriate and implement depends on our research problem and the main research question we want to answer. Once we know this, we need to plan our research work accordingly.

Moreover, design research gravitates between positivism, constructivism, and critic philosophical views. The design plan involves these paradigms as designers need to reflect through different worldviews to define the strategy of inquiry and the specific methods or tools of research that translate the approach into practice.

b) Design envisioning

One important design skill that is often overlooked is how we convey our research insights and results. Over the course of the content described above, students will explore different techniques and tools that enrich and tailor the message according to the audience, the design process, and the context.

Appendix A - Course structure