MDes Handbook

Master of Design
Carleton University

MDES

Fall | Spring | Winter | 2019 - 2020

School of Industrial Design

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1125 Colonel by Drive
Ottawa, ON, k1s 5b6

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1 PROGRAM OVERVIEW

The School of Industrial Design offers a program of study and research leading to the Master of Design (MDes) degree. The MDes requires the successful completion of 5.0 credits, including a 2 credit thesis. The program takes a strong research approach, and is normally completed after two years of study.

The focus of the program is to advance knowledge in the field of design through the study of advanced design principles and interdisciplinary design practices. This is achieved through a program of study that will enable graduates to positively integrate design principles, methodologies, and interdisciplinary design development processes into private and public sector business practice.

Students examine and incorporate multifaceted design principles and practices that contribute to the strategic value of design with particular research focus on the following key areas: advanced materials and manufacturing processes, advanced visualization, design and culture, design management, extreme environments, human-oriented design, product interaction design, sustainable design, and strategic design research.

They also have the opportunity to engage in interdisciplinary interactions with faculty from the School as well as faculty and students from a diverse range of disciplines in the university, all linked to the design development process.

Graduates will have the skills to conduct interdisciplinary design research and to manage resources to provide a design-based advantage.

The MDes program aims to teach designers to more effectively integrate design value into the business environment: it does not aim to teach students the process of design. Graduates are prepared to play a strategic role in championing design in a variety of enterprises, including academic institutions.

2 PRIMARY LEARNING OBJECTIVES

The program focuses on the following objectives;

Design Research

The study of methods for investigation, exploration and data collection such as undertaking and differentiating between qualitative and quantitative data collection for design problems; examining discursive methods of critical analysis and practice; and employing emerging theories and practices in supervised research projects.

Strategic Design Planning

The study of methods for planning, implementation and application which may include: incorporating strategic user observation analysis into design projects; identifying systems-related patterns for effectively planning design projects; merging relevant strategic design research and business practices; and integrating user-oriented innovations in prototyping new services and products.

Interdisciplinary Design Development

The study and practice of methods that are used to foster collaboration across disciplines which may include: working on and contributing to projects in interdisciplinary teams; working on design projects with external public and private sector partners with a solid record of interdisciplinary development experience; learning in “interdisciplinary-team-taught” courses, and interdisciplinary thesis supervision.

Knowledge Creation and Dissemination

involves expanding knowledge within critical design areas (e.g. advanced materials and manufacturing processes, advanced visualization, design and culture, design management, extreme environments, human-oriented design, product interaction design, social innovation, sustainable design, and strategic design research); writing and presenting papers; delivering workshops at conferences and seminars, funding permitted; and creating archival reference documents for industry such as case studies and technical reports.

3 ACHIEVEMENT OF PRIMARY LEARNING OBJECTIVES

The learning objectives are achieved through a sequence of core courses structured to provide the opportunity for balancing theory and practice, and are integrated with courses from different disciplines. The core courses offer a variety of pedagogical approaches such as project-based interdisciplinary studio activities, lecture-based methodology and theory classes with individual and/or team papers, a seminar class, and international conference and workshop participation.

The sequence is structured so that students learn the theory and principles in one course, such as DEsign Research Method (IDES 5102) and apply it in a subsequent course, such as the Interdisciplinary Design Development Studio (IDES 5103).

Students are also required to take three elective courses to deepen their knowledge in areas relevant to their thesis topic.
Finally, each student undertakes a supervised thesis investigation to apply and demonstrate the principles, research methods, and knowledge acquired.

All the core courses highlight interdisciplinary and/or collaborative work in theory or practice, where the term interdisciplinary refers to the cooperation between people from different disciplines to achieve common goals that integrate the expertise from those different disciplines. For example, the Interdisciplinary Design Development Studio (IDES 5103) may focus on projects undertaken by teams of students who share their different expert knowledge and experiences such as business, psychology, architecture, information technology among others.

In addition, the core courses highlight a balance between technological, environmental (sustainable), cultural, and social concerns. To this end the core courses promote a primarily user-centered design research approach.

Peer Learning
Graduate students are expected to have a regular presence in the studio to benefit from peer learning as well as interactions with professors. The peer-learning model is the underlying principle behind the MDes classes in which students working on their projects have the advantage of engaging in and learning from critical discussion, interaction, and problem solving with peers and professors.
In addition, graduate students may be invited to present research-in-progress talks to the student body at regular informal gatherings, and to participate in the annual undergraduate seminar (IDES 4001).

Students are also encouraged to present papers and workshops at conferences and seminars, with funding support made available to them, on a limited basis.

Integration into School Environment
Graduate students are integrated into the daily workings of the School in many ways. Those with previous design expertise may be offered teaching contracts, teaching or research assistantships, as appropriate.

Interdisciplinary Aspects

The objectives of learning interdisciplinary design development processes involve integrating different disciplines and different people to achieve common goals.

In the MDes program, the student body is, in itself, made up of students with different design backgrounds whose discipline-specific perspectives broaden everyone's viewpoints.

Opportunities for working with non-designers may be found in core and elective courses to prepare graduates to work on teams with non-designers in their future workplaces.

The Interdisciplinary Design Development Seminar (IDES 5101) introduces relevant issues in the design discourse.Later, Design Research Method course (IDES 5102) and Interdisciplinary Design Development Studio (IDES 5103) may include students enrolled in other degree programs such as the Sprott School of Business MBA program, the Master in Human-Computer Interaction, or the Master of Engineering in Technology Innovation Management.

Working on a design problem that crosses disciplines provides experiential learning in interdisciplinary design development processes. Furthermore, the extended core faculty of the program includes individuals who are members of different faculties and/or departments at Carleton University in addition to the School of Industrial Design, core faculty come from the Sprott School of Business, the Department of Sociology and Anthropology, and the Department of Mechanical and Aerospace Engineering, among others.

These faculty members will be involved as co-supervisors in student thesis committees.

Finally, studio projects may be undertaken collaboratively with private sector partners with a solid record of interdisciplinary development experience who participate in studio activities and/or consult with the students on a regular basis.

The School has a long history of collaborating with public- and private-sector partners such as the National Capital Commission (NCC), Motorola, Bombardier, Filter Stream, Black and Decker, DW Product Development, Smart Technologies, and others.

Upon acceptance to the program each graduate student will be assigned a faculty supervisor.

Each student will be encouraged to develop his or her personal elective curriculum in consultation with that supervisor. Then each student will have four months (one semester) to confirm who they would like as a faculty supervisor from the SID core faculty. The Graduate Program Coordinator will make every effort to balance graduate students' requests with supervisory assignments.

4 PROGRAM REQUIREMENTS

The MDes program requires the successful completion of 5.0 credits with at least 4.5 credits taken at the 5000 level or higher.

The Graduate Program Coordinator must approve elective course selections. Only one 0.5 credit elective may be taken as a Directed Study. Only one 0.5 credit elective may be taken as a fourth-year course. The schedule of coursework and thesis progress follows:

Year 1
Fall Semester

IDES 5101 Interdisciplinary Design Development Seminar (0.5 credit)
Investigation of disciplines involved in design development, with experts in Business, Engineering, Sociology Anthropology, Architecture, Psychology, Human Factors, Industrial Design, and others. Includes a critical examination of methods used to integrate different approaches, and roles that personality, leadership, negotiation, conflict management, and teambuilding play in collaboration. Introduction to graduate academic writing.

IDES 5102 Research Methods (0.5 credit)
Critical analysis of research methods in design and disciplines contributing to design including anthropology, psychology, sociology, and business. Application areas include advanced materials and manufacturing processes, advanced visualization, product interaction design, extreme environments, sustainable design, design and culture, design management, and human-oriented design.

Year 1
Winter Semester

IDES 5103 Interdisciplinary Design Development Studio (0.5 credit)
Team-based studio projects draw on interdisciplinary design development methods in achieving a common design objective. Projects will be supervised by academic and industry advisors from a wide range of disciplines, and conducted in collaboration with professionals from external organizations. Open to students from other programs.

Elective 1
Elective 2

Milestone 1

Milestone 1 - Statement of Study Interest and Annotated Bibliography
This document must be submitted to the Graduate Program Coordinator and (or) the potential SID Supervisor by the first day of classes after the February Winter break. This is a short essay to identify the area of a student's study interest. The statement identifies the student's general field of study interest. It ties the student's interest to the research areas of the SID and other Carleton faculty with whom the student wants to work. The theme must be related to the interdisciplinary expertise of potential co-supervisors. The statement should not exceed 400 words (with 1" borders, double-spaced, in Times New Roman font, 12 point). Students will also provide an annotated bibliography of 10-12 relevant resources.

Thesis Supervisor & Co-supervisor
A thesis supervisor is chosen from among the SID faculty members on the basis of each student's research and study interest by the time of the first milestone is submitted. The process of the selection will be agreed upon between the student, the supervisor, and the Graduate Program Coordinator, also according to the availability of each faculty member. The thesis supervisor and the student will identify a co-supervisor external to the School of Industrial Design and internal to Carleton University as a co-supervisor. The student will develop his or her Thesis Proposal (see milestone 2 description) in consultation with his or her co-supervisors.

Year 1
Summer Semester

For the most current listing of summer course offerings, visit the public class schedule. Students may also use the "Build Your Timetable" feature in Carleton Central to plan their summer schedule to ensure successful registration. Check the University's Registration website for more information on using the Timetable Tool, or for a number of helpful instructional videos. As the summer schedule is published several months prior to the beginning of classes, the University reserves the right to make any changes.

In addition, summer is the perfect time to get ethics approvals, collect data, and read thesis related literature in preperation for Milestone 2. Please consult with the student's supervisors and co-supervisor to develop the thesis proposal.

Year 2
Fall Semester

Elective 3

Milestone 2 – Thesis Proposal*
This document must be submitted to the SID thesis supervisor, co-supervisor and the Graduate Program Coordinator by September in the 2nd year. After the submission, an oral presentation must be given to the public including the supervisor, co-supervisors, faculty members, and other students. This event will take place in September, year.

Milestone 2 is a substantial document, resulting from considerable preliminary research into the thesis area. The document should not exceed 1500 words (with 1" borders, double-spaced, in Times Roman font, 12 point) and its template is provided.

This document should include the following information.

1. Introduction
   - Research question
   - Area of interest
2. Literature review
3. Methods
   - Data gathering
   - Ethics and safety concerns
4. Planning & Timescales
5. References;

* Students must successfully satisfy each milestone requirement before proceeding. If a milestone is unsatisfied, the submission date will be negotiated with the Graduate Program Coordinator and the student's Co-Supervisors.

Year 2
Winter Semester

IDES 5909 Thesis (2.0 credit)
A comprehensive study that demonstrates the student's ability to conduct critical research in a specific area in which design can contribute to competitive advantage through design planning and interdisciplinary design development processes. It should exhibit a competence in design research process by applying an existing body of knowledge in the critical analysis of a new question or of a specific problem or issue in a new setting.

Thesis*
This document should minimally include the following headings, as discussed on the Faculty of Graduate and Postdoctoral Affairs website in a document entitled "Master's and Doctoral Thesis Preparation Guidelines" at http://www5.carleton.ca/fgpa/thesis requirements/formatting/

Title Page
Abstract
Acknowledgments
Table of Contents
  - List of Figures
  - List of Tables
  - List of Appendices

1. Introduction
   - Background/Context
2. Literature Review
   - Theoretical/Conceptual Framework
3. Methodology / Approach
4. Results / Research Findings
5. Conclusion
6. Discussion / Limitation/ Further study

Bibliography (APA format, 6th edition for citations and references only)
Appendices

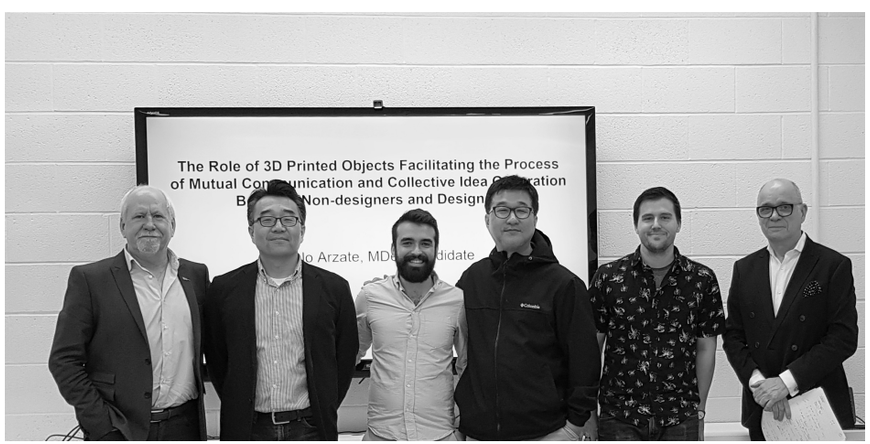
* Thesis template provided.

Once the two Co-Supervisors approve the thesis copy for examination (deemed ready for defence), the student should upload the examination copy to Carleton Central. This upload takes place at least two weeks before the defence date. The Thesis co-supervisor's Approval Form is signed off electronically by the thesis co-supervisors indicating that the thesis is ready for defence. Once the thesis defence has taken place and all corrections are made the final copy is uploaded to Carleton Central. Along with the upload the student must fill out licenses and agreements.

Information for thesis submission is available on the Faculty of Graduate and Postdoctoral Affairs website in a document entitled "Thesis Examination Policy". The copies must comply with any special school requirements governing the form of the thesis, including methods of bibliographical entry and the use of diagrams and tables. Students must submit the final digital version of their thesis to the Graduate Administrator and upload it as required.

Oral Examination
An oral examination is required for all students in the MDes program. The examination board will be formed by at least five members, including the SID thesis co-supervisor, co-supervisor, an examiner from a department other than that of the candidate, one additional member from the department concerned and a chair.

For more detail information, see the Faculty of Graduate and Postdoctoral Affairs website in the document entitled "Thesis Examinations Policy". (http://carleton.ca/fgpa/thesis-requirements/.)



5 MDES STUDY SEQUENCE

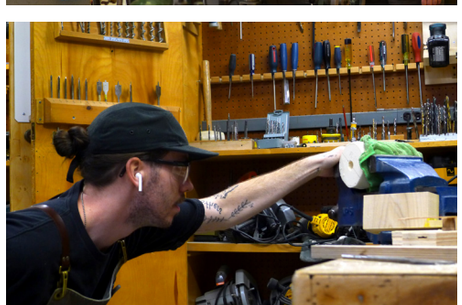
	Year 1			Year 2	
Research & Course work	**Semester 1 Fall**	**Semester 2 Winter**	**Semester 3 Summer**	**Semester 4 Fall**	**Semester 5 Winter**
IDES 5101 (0.5 credit) Interdisciplinary Design Development Seminar	●				
IDES 5102 (0.5 credit) Research Methods	●				
IDES 5103 (0.5 credit) Interdisciplinary Design Development Studio		●			
Elective (0.5 credit)	● or	●			
Elective (0.5 credit)		●			
Elective (0.5 credit)			● or	●	
IDES 5909 (2 credit) Thesis					●
Semester Credit	1.0 / 1.5	1.0 / 1.5		0.5	2.0
Accumulated Credit	1.0 / 1.5	2.5		3.0	5.0
		Milestone 1		**Milestone 2**	**IDES 5909**
Deliverables		**Statement of Study interest & Annotated Bibliography**		**Thesis Proposal**	**Thesis & Oral Examination**
Research Activity	Establish area of interest Identify potential research topic	Scope of topic Annotated bibliography Hypothesis & Questions Develop methodology Detailed research plan	Conduct datta collection Analyze & synthesize data Prepare Milestone 2	Conduct data collection Analyze & synthesize data Identify insights Draft of thesis	Draft of thesis Complete thesis Oral Examination
Supervisors	Searching for SID thesis co-supervisor	Confirmation of SID co-supervisor & Searching for co-supervisor	Work continue with the co-supervisors	Work continues with the co-supervisors	Formation of Examination Board

6 SCHOOL RESOURCES

Administrative and Technical Support

The School of Industrial Design has two full-time administrators. The Graduate and Administrative Assistant is stationed in the General Office and responds to student and faculty daily concerns, serves as graduate program assistant, operates the resource centre, and helps with equipment and room bookings.

The School Administrator oversees student registration, the school web site, and student funding. The Computer Technician is available for computing issues and other computing and electronic expertise. The Chief Technician and the two lab technicians are available for manufacturing and model making expertise and other advanced prototyping support, if needed for graduate research.



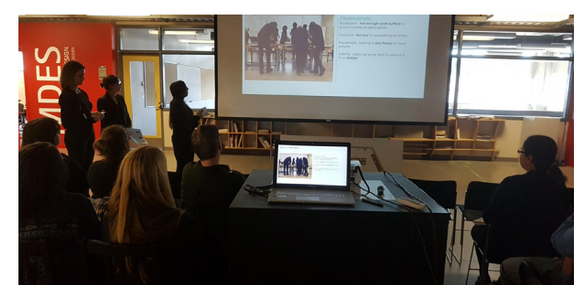
Dedicated Space

An 1100 square-foot room in the Azrieli Pavilion accommodates up to 24 graduate students in a natural-light studio. Students have access to this studio 24 hours a day. There are additional meeting rooms for faculty and students to meet to review their work on an ongoing basis, and they have to be booked ahead of time.

Some small MDes classes will take place in the studio, and students not enrolled in those classes are welcome to work quietly in other parts of the room. Graduate students are able to take advantage of the range of work and learning spaces currently utilized by the undergraduate program.

The central space on the fourth floor is open for all to use and a good place to hold meetings. The school's Manufacturing Labs and Resources include sophisticated rapid prototyping capabilities, computer systems, equipment, and resources to support the design and development of three-dimensional and virtual prototypes. The Maker Room in the School of Industrial Design allows for significant research into and development of 3D printing technology, interactive electronic prototypes and final proof of concept models.

It complements and supports the design and generation of interactive products and systems. While these labs are primarily for the students enrolled in the Bachelor of Industrial Design program, graduate students may find that they need to support the undergrads in the shops as TA's or need to produce prototypes for their own thesis research. In both cases, individual consultation with the Chief Technician is required.



7 FACULTY RESEARCH PROFILES

Bjarki Hallgrimson
Chantal Trudel
Chiara Del Gaudio
Lois Frankel
Stephen Field
Thomas Garvey
WonJoon Chung

Bjarki Hallgrimsson, P.Eng. IDSA
Director /
Associate Professor,
School of Industrial Design

BIO:
Professor Hallgrimsson is a product designer, author and researcher. After graduating with a mechanical engineering degree and gaining professional experience, he discovered industrial design, which became the passion and focus of his future career. He holds a MSE in product design from Stanford University and has worked for several professional industrial-design consulting firms in the United States and Canada. His own company HPD developed award winning and patented products for a variety of clients in a broad range of industries. His hands-on maker philosophy was shaped by many years of experience in industry. “Prototyping and Model making for Product Design”, by Laurence King Publishing is available in 4 languages and shows how “physical prototypes form a strategic part of a successful product designer’s toolkit”. Although a generalist at heart, his expertise in designing assistive devices for people with disabilities continues to challenge him and his students to create more useful and human products that have a profound effect on the quality of life of people. Professor Hallgrimsson grew up in Sweden, Kenya and Tanzania. Through his international outlook, he has involved many students in community oriented design research in Africa.

RESEARCH:
Professor Hallgrimsson leads undergraduate and graduate students in research on practical prototyping methods, technologies and applications. This has included diverse projects in collaboration with other disciplines. His current focus is on digital prototyping methods and design of improved equipment and processes. A history of research and development of mobility devices includes award winning rollators (walkers) for HumanCare (previously Dana Douglas Inc.), as well as one of the first resin wheelchairs to be mass produced (Mobilaid). Professor Hallgrimsson sits on the advisory board of the Research Education Accessibility and Design (READ) initiative at Carleton. His students regularly work on universal design issues for better accessibility for Persons With Disability (PWD). Another focus includes the plight of extreme poverty and disability. He secured funding from the International Development Research Center (IDRC) to conduct interdisciplinary and collaborative research in Sub Saharan Africa also in collaboration with the Department of Environmental Engineering and Sprott School of Business at Carleton.

Through this work he has brought 15 undergraduate students and 2 graduate design students on fieldwork to Tanzania and Uganda. He was recently awarded the Network of Africa Designers award “for exemplary service and dedication in promotion of the Africa Design Agenda.” One of his projects, “Promobilia Wheelchair-Tricycle” addresses mobility in rural Africa: http://Carleton.ca/wheelchair.

Chantal Trudel, MSc.
Assistant Professor,
School of Industrial Design,
Cross Appointed to HCI

BIO:
Chantal Trudel is a graduate of Carleton University's School of Industrial Design (B.I.D) and earned her Master's Degree in Applied Ergonomics (MSc) from the University of Nottingham. Chantal's experience reflects her appreciation for the role of industrial design within interdisciplinary teams and working with other professions to achieve a comprehensive understanding of people, processes and their context. Early in her career, she conducted research for Teknion's 'Advanced Concepts' and worked as a product designer for Umbra. For over 10 years, she worked within the field of architecture and interior design, exploring the use, planning and design of spaces and products within complex building systems. Starting with commercial interiors at B+H Architects, she went on to specialize in health care environments with Parkin Architects. Since then, her field experience in designing health care environments has given her insight into product limitations and potential research opportunities.

Chantal has worked on large, multidisciplinary teams, as a planner and designer on Winnipeg's Health Sciences Centre's (HSC) Women and Newborn Hospital (Parkin Architects/Architecture 49) and as a designer during the pursuit stage of Infrastructure Québec's McGill University Health Network Glen Campus competition in Montreal with (Parkin Architects under OHL). Her work has been featured in Canadian Interiors for the design of McClelland and Stewart's office (B+H Architects). In 2010, Chantal and her colleagues received the Canadian Architect Award of Excellence for the Women and Newborn Hospital and a High Commendation for the same project from the International Academy for Design and Health in the International Future Health Project Category in 2012.

RESEARCH:
Chantal is interested in design's role in health, safety, performance and productivity, with special interest in: clinical processes and the design of products and environment; patient and family experience in health care design; design for women and newborn care; the role of design in understanding and practicing infection prevention and control (IPAC); and human computer interaction in health care design. Her students have explored digital navigation in hospitals; noise cancellation/personalized acoustic control for in-patients; IPAC and ergonomic considerations in commode chair and hand sanitizer design; sensor and internet-enabled technology for facilitating family assistance in care; to name just a few examples. Other students have explored health and safety within the context of forest fighting with the Ontario Ministry of Natural Resources and Forestry, investigating human factors considerations.

Chantal's research on clinical audiology as it relates to the ergonomics and design of products and the environment has been featured in Access Audiology & The Leader, a digital publication on the American Speech–Language–Hearing Association website. Her master's thesis examined the influence of product and environmental design as well as clinicians' perspectives and work motivations, on IPAC within a neonatal intensive care unit. The study leads to the development of a framework for understanding IPAC breaches and recommendations for further research and development.

Chiara Del Gaudio, Ph.D.
Assistant Professor,
School of Industrial Design

BIO:
Chiara Del Gaudio holds a PhD in Design from Pontifícia Universidade Católica do Rio de Janeiro (PUC-Rio) (2014), a MSc in Design & Engineering (2008) from Politecnico di Milano, and a Bachelor degree in Industrial Design (2005) from the same institution. She has been teaching design at both undergraduate and graduate levels since 2014, at first in Brazil at Universidade do Vale do Rio dos Sinos (UNISINOS), and from July 2019 as Assistant professor at the School of Industrial Design of Carleton University.

Her education, as well as her practice, teaching and research experience blend insights from industrial design with participatory and strategic design approaches and methodologies, within an intercultural perspective. After working as product designer, her design practice has been mainly related to the social and political dimension of design in projects happing at the intersection between university and local communities. In fact, she has been working on applied design research projects addressing more democratic and sustainable urban context and the improvement of local life conditions in poor urban areas. Since 2014, she has also been working as strategic consultant for small service and innovation enterprises in Brazil and coordinated multidisciplinary teams.

RESEARCH:
Chiara Del Gaudio's main research and practice interest are on design as political process; participatory and collaborative design approaches, strategic design for social innovation, and power and conflict within design processes. Within this framework, her research mainly focuses on designers' contribution towards more democratic scenarios. Specifically, she seeks to explore how designers can promote the conditions for them to happen. In this regard, at the current moment, she is researching into how to evolve the existing strategic design practice through the concepts of tactics, devices and strategies, and the theories of complexity. Moreover, she has been researching on the limits, challenges, and risks related to collaborative and participatory approaches when applied in the real world, mainly in conflict-affected and fragile urban areas; and the necessary conditions for this kind of design practice. For example, one of her recent projects named "Visionarios da Cidade" aimed at designing and piloting an educational programme for fostering design and socio-entrepreneurship skills in youngsters from poor urban areas, and to support them in designing new socio-entrepreneurship initiatives for their context.

She also is an active and growing member of the design research community at national and international level. At national level, in Brazil, she organized and re-designed the national Symposium on Sustainable Design in 2015 and 2017, as well as she was invited for discussing and presenting her research in several national events and seminars, such as Entremeios (hold by ESDI-UERJ in Rio de Janeiro). At international level, she has published in peer reviewed journals and she has been working with several members of the participatory design conference committee in activities aimed at fostering the discussion of emerging topics within that community (i.e. she recently edited a special issue on Design and Autonomía, published by the Strategic Design Research Journal). Moreover, she is program chair of the next Participatory Design Conference to be held in Colombia in 2020.

Lois Frankel, Ph.D.
Associate Professor,
School of Industrial Design,
Cross Appointed to HCI

BIO:
Dr. Frankel began her career in jewellery design, evolving into product design for improving quality of life across different cultural, social, and capability populations. Currently, She is a faculty member in two NSERC funded CREATE projects: READi (Research and Education in Accessibility, Design, and Innovation) and CLUE (Collaborative Learning of Usability Experiences).

She earned a Master's Degree (M.E.Des) in industrial design at the University of Calgary and a Ph.D. at Concordia University (focusing on Sensory Anthropology and Computational Design). She was also the first woman Director of the School of Industrial Design at Carleton University.

Her design expertise includes: Interaction Design, Participatory Design, Sensory Design Detailing, and User Experience Design. She is currently the Sensory Design Editor of the Routledge journal, "The Senses and Society". She has published over 30 peer-reviewed papers and received extensive funding for research focusing on design for people with disabilities, interaction design, sensory aspects of design, and user experience design.

RESEARCH:
Dr. Frankel is interested in simplifying the relationship between people and their technology-enabled products. Her design research for smart products for the elderly and people with disabilities began in collaboration with the TAFETA (Technology Assisted Friendly Environments for the Third Age) group at the Elisabeth Bruyere Health Centre in Ottawa. Since then, she and her students have conducted research and design for improving people's practices related to balance, communication, mobility, memory and cognition in areas such as cooking, exercise, shopping, socializing, and general interactions with technology products. Her Ph.D. applied Sensory Anthropology principles in studying impaired older people's sensory practices with participants at the Churchill Seniors' Centre in Ottawa. This led to a set of sensory insights for designers for developing assistive technologies for fitness for older adults. Her understanding of people's sensory practices and perceptions in their everyday experiences influenced the course content of the Bachelor of Industrial Design (BID) course: IDES2205 Sensory Aspects of Design for user experience. This course shifts the predominantly visual orientation designers place on form development by investigating and deconstructing the multi-sensory qualities of everyday products.

She is the lead of the Sense-It! research team, which is developing an extensive set of pedagogical tools (activities, workshops, and publications) for developing an understanding of sensory design issues.

Stephen Field, MDes
Assistant Professor,
School of Industrial Design

BIO:
Stephen Field is an internationally experienced industrial designer with over 25 years of background in the design and development of products and systems. As an educator Stephen mixes his professional experience with his enthusiasm and passion for design. From day one of first year studio Stephen introduces students to the design process, a process that will be cultivated throughout their industrial design education. As the students advance through the program Stephen, through his teaching, illustrates the importance of a holistic approach to design. As a past entrepreneur he describes how the importance of a sound business thinking combined with design can create innovative products and systems for the worlds diverse markets.

Only with understanding the tools and skills of design can students develop the visual language needed for creating. Stephen puts a great deal of emphasis on students developing the ability to sketch; he sees it as one of most valuable skills to contribute to the formulation of a good design. Only through the ability to sketch can a designer then pool the many other tools of design to create and develop products and systems.

RESEARCH:
Employing his global background in design and development of energy efficient housing components and manufacturing processes, Stephen is currently researching how a collaborative holistic approach can be utilized for the purpose of developing sustainable housing systems for remote Canadian Inuit communities. He is exploring how self-reliance for Inuit communities could be established through the development of traditional appropriate housing systems and products, which could be manufactured and maintained within Inuit communities. Most importantly Stephen's research is identifying that innovative solutions to large issues like the northern housing crisis can be tackled through an interdisciplinary design process.

Thomas Garvey, Ph.D.
Associate Professor,
School of Industrial Design,
Board of Directors at World Design Organization™

BIO:
Dr. Garvey specializes in product development and design for extreme and minimal environments. His interest in small-scale living spaces grew out of his work in New York on space station interiors and led to doctoral studies at the University of Tokyo on the topic of housing and urban density. For almost a decade he recorded imagery and data on how historical minimalist design philosophy can still be seen embedded in a range of contemporary approaches to lifestyle design, living environments, and the products that bring meaning to daily experience.

RESEARCH:
He became involved in hospital patient room design after joining the Global University Programs in Healthcare Architecture (GUPHA). The international organization looks at how design education can contribute to addressing the increasingly complex changes happening in hospitals worldwide, due to expanding and ageing populations.

Prof. Garvey and his teams have received numerous awards and their prototypes have been presented at conferences and exhibits around the world, bridging both the design and healthcare worlds. He has also been involved in a range of curricular development projects for design education, both within universities and in collaboration with external organizations. Most recently he was invited expert at the 2014 ICSID Interdesign Mumbai, Humanizing a Metropolis, to contribute in the area of housing and shelter. Sponsored by the Welingkar Institute of Management Development and Research in Mumbai this work led to a pilot project in Canada to integrate design thinking into design and business collaborations.

He holds a Bachelor of Industrial Design from Carleton University, a M.Sc. in Communications Design from Pratt Institute in New York (funded by Design Canada Scholarships for Design Excellence provided by the Canadian Ministry of Industry, Trade, and Commerce), and a Ph.D. in Architectural Planning from the University of Tokyo (funded by Japanese Ministry of Education (Monbusho) Research Scholarship). He has also received a Michael Kalil Foundation Grant.

WonJoon Chung, Ph.D.
Associate Professor,
Grad. Program Coordinator,
School of Industrial Design

BIO:
Dr. Chung focuses his research in developing methods or tools to enhance collective creativity in co-design situations and effective group ideation processes. Also, he is interested in early prototype development and Improvisational Interaction in Collaborative Design Process for product innovation.

He received his Ph.D from the Institute of Design, Illinois Institute of Technology (IIT) where he focused on developing a theoretical framework for early prototypes used to foster design collaboration. He received his M.A. from the Ohio State University and a B.A. from Konkuk University in South Korea. In his professional career, he worked as a kitchen furniture designer in ENEX, a kitchen furniture company in South Korea, a design researcher at the Battelle Memorial Institute, Columbus, Ohio and an Adjunct Professor at the Institute of Design, IIT.

RESEARCH:
Dr. Chung has been working on developing specific methods or tools that can be used in the stage of data analysis to find user insights and synthesis to generate innovative and compelling design ideas, particularly in interdisciplinary collaborative situations. Also, he investigates the fundamental principles of design in design practices. For example, he argued that interdisciplinary collaboration is not always effective if its theoretical, institutional and educational aspects are not well defined. Based on this notion, he developed a theoretical framework of an effective group collaboration by employing the notion of Activity Theory. Based on this foundational study, he conducted funded government projects, one for the Korea Institute of Design Promotion (KIDP) and the other for a design firm in Korea that helped him to establish a partnership with a number of prestigious industry partners as well as design departments in universities in Korea.

Dr. Chung has published in several peer reviewed papers in international conferences and journal papers; for example, “Effective Ideation Method for Collective Creativity” (Chung, W., 2019) presented in 10th International Conference on Applied Human Factors and Ergonomics AHFE 2018 discussed a method to facilitate collective creativity process in a co-designing situation, “ Sketching for Individual and Collective Creativity” . (Chung, W., 2018) presented in International Design Trend Conference in South Korea, and a journal paper such as “Finding Serendipity in Early Prototyping” (Lacerda & Chung, 2013) published in Archives of Design Research (Vol. 26, No.1; pp.99-117, pISSN 1226-8046)

8 GRADUATE SUPERVISION – RESPONSIBILITIES & EXPECTATIONS POLICY

Responsibilities of Supervisors

1. To provide constructive feedback to work submitted by the student in a timely manner as governed by departmental guidelines. This includes student's thesis work as well as his or her research papers. Where this feedback cannot be provided within **one month,** this delay must be handled in full consultation with the student.

2. To maintain regular communication and consultation with the student.

3. To be available for regular and timely consultations with students and to provide notification of lengthy absences and the support mechanisms available under these circumstances.

4. To agree to continue supervision when on sabbatical or other type of leave, or to assist the student in making arrangements for supervision during the period of the leave.

5. To assist students in seeking financial support, especially in writing letters of good quality in support of scholarship and fellowship applications (e.g. well-written, informative, typed, on university letterhead).

6. To convene meetings of the advisory committee.

7. To agree with the student on a reasonable schedule for the completion of each portion of the research and thesis. Supervisors should advise their students to be aware of FGPA deadlines.

8. To be familiar with the regulations and standards of the faculty of graduate and postdoctoral affairs, and the academic unit, especially as they pertain to the conduct of research and the production of the thesis, and to ensure that the student is aware of these regulations and standards.

9. To be aware of and abide by the university's policies on conflict of interest, sexual harassment, and research ethics.

10. To assist the student in identifying a suitable research topic and (where appropriate) setting up a program of study.

11. To assist the student in the interpretation of research materials.

12. To indicate clearly when a draft thesis is in acceptable condition for examination or, if it is clear that the thesis is not examinable, to advise the student in a timely fashion. In the case of disagreement between the supervisor and the student as to whether the thesis should move to defence, the student does have the right to proceed to examination without the supervisor's support.

13. To complete all necessary departmental records and the supervisor's section of the annual audit form required by the faculty of graduate and postdoctoral affairs.

14. To discuss with the student as early as feasible, any potential joint authorships or joint ownership of data or patents which might arise, provide a written version of any understandings reached on these matters, and also ensure that student contributions to publications are adequately acknowledged. (granting agencies and major journals have guidelines which cover some or all of these items.)

15. To discuss with the student any potential copyright issues related to external material reproduced in the thesis.

Responsibilities of Students

1. To choose, with the supervisor's help, a feasible research topic.

2. To work systematically and within agreed deadlines, as far as possible, in order to meet the program deadlines specified by both the department and the Faculty of Graduate and Postdoctoral Affairs.

3. To familiarize themselves with the unit and FGPA policies regarding the elements, course and completion of their degree.

4. To make themselves available for meetings with their supervisor during regular business hours.

5. To be well prepared for meetings with the supervisor.

6. To participate in the professional development opportunities provided by their unit and FGPA.

7. To agree with the supervisor on a reasonable schedule for the completion of each portion of the research and thesis.

8. To submit to the supervisor all research materials, as requested, and, at the agreed times, drafts of parts of the thesis for comment.

9. To give serious attention to the advice and direction of the supervisor.

10. To realize that the supervisor has duties and commitments that may delay access at short notice or slow down the return of a draft.

11. To acknowledge direct assistance of material drawn from other scholars and researchers.

12. To produce a thesis which meets the specifications and standards of the Faculty of Graduate and Postdoctoral Affairs and the academic unit.

13. To submit the thesis to the judgment of the academic unit via the examination procedures specified and to abide by the judgment of the examiners, subject to any appeal on grounds of procedural irregularities.

14. To respect copyright regulations when reproducing external material in the thesis.

15. To maintain regular communication with the supervisor.

This array of responsibilities imparts certain expectations on the part of both the supervisor and student.

8 GRADUATE SUPERVISION – RESPONSIBILITIES & EXPECTATIONS POLICY

Expectations of the Supervisor

To expect the student to pursue the agreed research topic, unless a change has been mutually agreed upon.

To expect the student to give serious attention to advice concerning perceived deficiencies in the research and the thesis, and to receive a reasonable explanation when this advice is not followed.

To terminate supervision if the student is not displaying a reasonable effort, if they fail to heed advice on changes deemed essential, or if the student changes the agreed thesis topic without consent.

To have their contribution to the thesis appropriately and clearly acknowledged.

To have permission from the author of the thesis for the research set out in the thesis to be used as part of the larger project, when the student has produced the research as a research assistant employed on the larger project (with the understanding that the student will retain scholarly credit).

Expectations of the Student

To be assisted by the supervisor in developing a clear and feasible research topic and in solving problems and assessing progress as the work develops.

To be assisted to a clear understanding of the substantive and formal requirements of a thesis (e.g., length; methodology; validation of topic; degree of originality, especially in masters theses).

To receive within a reasonable time frame a fair and thorough assessment of both the drafts and the completed thesis, and clear explanations of negative comments.

To be permitted to seek a new supervisor (however, it is understood that an academic unit and the university cannot guarantee a suitable replacement).

To be protected from arbitrary changes in research direction which are detrimental to the timely completion of the thesis.

To have their contribution to the thesis fairly reflected in the attribution of authorship of publications and of patents.

To be permitted to submit a thesis for examination even if the supervisor is not satisfied, providing the work conforms to the guidelines and regulations laid down by the Faculty of Graduate and Postdoctoral Affairs and the academic unit.

Potential Problems and Processes for Resolution

When either the student or the supervisor feel that the supervisory relationship has failed to meet the responsibilities listed in this policy, they may request an informal resolution process. This will take place initially within the academic unit, and then, if not resolved, within the Faculty of Graduate and Postdoctoral Affairs, with the involvement of the Ombudsman where this seems appropriate.

In those disciplines that do not assign a supervisor on admission, the student should understand that, while the academic unit will make every attempt to assign the supervisor of choice, the supervisorial relationship has to be consensual. Supervisors are assigned based on their availability and their competence in the field of the proposed thesis topic.

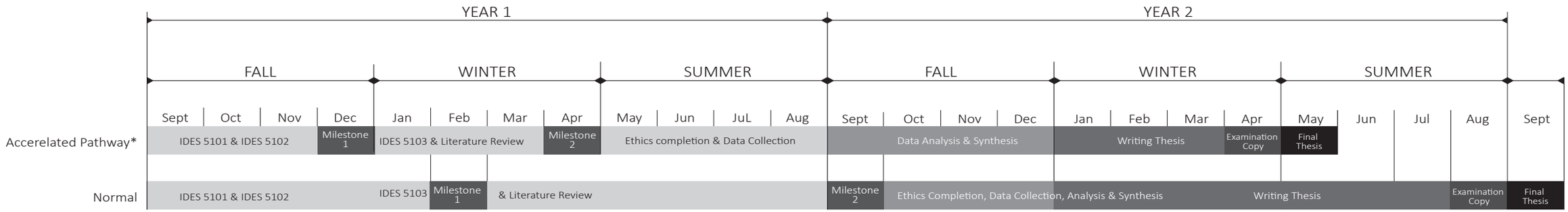
Students should understand that while the academic unit and the university will make every reasonable effort to find a supervisor for the student, there might be rare occasions where it proves impossible to do so. In cases where a suitable supervisor cannot be found, the student may be required to withdraw from the program in good standing.

Furthermore, students understand that their lines of research may encounter some change due to dependence upon the research direction of the supervisor.

Honorary Faculty Appointments with Approved Supervision Status
For students seeking information about graduate supervision status, please contact your academic unit directly.

For Carleton Faculty/Staff: You can access the up-to-date list of honorary ranks in Banner. If you do not have access to this list, please email faculty.affairs@carleton.ca.

APPENDIX A: MDES PATHS TO COMPLETION



Deliverables

Milestone 1
Statement of Study Interest

This document must be submitted to the Graduate Program Coordinator **at the end of Fall term** or **right after winter break in year 1.** (If the student doesn't meet this deadline, it will be difficult to meet the September deadline for Milestone 2 in year 2.)

Milestone 2
Thesis Proposal

This document must be submitted to the SID thesis supervisor, external co-supervisor and the Graduate Program Coordinator by **the end of winter semester, year 1** or at **the beginning of fall semester, year 2.**

A public oral presentation, including all of the people above will take place in **April, year 1** or **September, year 2.**

Examination Copy

Examination copy must be distributed to the thesis examination committee by **April 1st** or at **the end of August in year 2.**

Oral thesis defense will be scheduled 2 weeks after the submission of the examination copy.

Final Thesis

Submission date usually in **the middle of May** for June graduation or in **the middle of September** for Nobember graduation (date changes yearly).

If the final thesis is submitted by the September submission deadline, graduation will take place in the winter semester, without having to pay ongoing tuition fees.

**This schedule most likely applies to Accerelated Pathway students.*