DOCTORATE IN PHILOSOPHY DIGITAL TRANSFORMATION AND INNOVATION

Overview

** Please note that the former title of this program was: Doctorate in Philosophy Electronic Business.*

Summary

- Degree offered: Doctorate in Philosophy (PhD)
- Registration status options: Full-time
- Language of instruction: English
- Program option (expected duration of the program):
  - within four years of full-time study
- Academic units: Telfer School of Management (https://telfer.uottawa.ca/en/), Faculty of Arts (https://arts.uottawa.ca/en/), Faculty of Engineering (http://engineering.uottawa.ca/), School of Electrical and Computer Science (http://engineering.uottawa.ca/eecs/)

Program Description

The Digital Transformation and Innovation program is a multi-faculty collaboration between the Telfer School of Management, the Faculty of Arts, and the Faculty of Engineering to train highly qualified professionals to create, manage and research the profound change to our world that is happening as a result of electronic digital technology. At its heart, the technology enables the collection and communication of huge amounts of data that transforms how business and society works. It also creates a new online environment where the experience of business and social interactions by individuals is being reinvented. Innovation is an important aspect of the program to emphasize the re-invention and creative design of user experiences in business and social interactions.

For more information please see the DTI Student Association (https://dtiuottawa.ca/) webpage.

Learn more about this program (https://www.uottawa.ca/faculty-arts/programs/graduate/digital-transformation-innovation/)

Main Areas of Research

Research in the Digital Transformation and Innovation program is multi-disciplinary and involves collaboration between professors and students in Telfer School of Management, Faculty of Arts, and Faculty of Engineering. Design is a significant aspect of research in Digital Transformation and Innovation. This includes: design and implementation of applications, information design, visual literacy, user experience, and audience research.

Telfer School of Management

- Digital Marketing, Consumer Behavior, Customer Experience Design and Relationship Management
- Business Analytics and Business Intelligence
- Health Systems Innovation and Management
- Entrepreneurship, Innovation and Strategic Management
- Business Technology Management (including IT Diffusion, Adoption and Consumerization)
- Globalization, Governance, and Sustainability

Faculty of Arts

- Algorithmic culture, platformatization, and datafication
- Information and communication regulation and policy
- Privacy and surveillance
- Cultural, economic, political, and social impacts of innovation in digital networks and applications
- Information governance and ethics

Faculty of Engineering

- Applied Data Science
- User Experience
- Digital Health
- Cloud Computing
- Internet of Things

Other Programs Offered Within the Same Discipline or in a Related Area

- Master of Science Digital Transformation and Innovation
- Master of Digital Transformation and Innovation
- Master of Digital Transformation and Innovation (Online)
- Master of Digital Transformation and Innovation with Concentration in UX Design
- Master of Digital Transformation and Innovation with Concentration in Applied Data Science

Fees and Funding

- Program fees

  The estimated amount for university fees (https://www.uottawa.ca/university-fees/) associated with this program are available under the section Finance your studies (http://www.uottawa.ca/graduate-studies/programs-admission/finance-studies/).

  International students enrolled in a French-language program of study may be eligible for a differential tuition fee exemption (https://www.uottawa.ca/university-fees/differential-tuition-fee-exemption/).

- To learn about possibilities for financing your graduate studies, consult the Awards and financial support (https://www.uottawa.ca/graduate-studies/students/awards/) section.

Notes

- Programs are governed by the academic regulations (https://www.uottawa.ca/about-us/leadership-governance/policies-regulations/) in effect for graduate studies at the University of Ottawa.
- In accordance with the University of Ottawa regulation, students have the right to complete their assignments, examinations, research papers, and theses in French or in English.

Program Contact Information

Graduate Studies Office, Faculty of Engineering (https://engineering.uottawa.ca/graduate-studies-office/)
STE 1024
800 King Edward Ave.
Ottawa ON Canada
K1N 6N5

Tel.: 613-562-5347
Fax.: 613-562-5129
Email: engineering.grad@uottawa.ca

Twitter | Faculty of Engineering (https://twitter.com/uOttawaGenie/?lang=en)
Facebook | Faculty of Engineer (https://www.facebook.com/uottawa.engineering/)

Admissions Requirements

For the most accurate and up to date information on application deadlines, language tests and other admission requirements, please visit the specific requirements (https://www.uottawa.ca/graduate-studies/programs-admission/apply/specific-requirements/) webpage.

To be eligible, candidates must:

- Hold a master's degree with thesis and a minimum average of A- in one of the following:
  - MSc in Digital Transformation and Innovation, in Management, in Health Systems, or in Systems Science;
  - MASc in Electrical and Computer Engineering;
  - Master of Computer Science;
  - Master of Information Studies;
  - MA in Communication;
  - A master's in a related, relevant discipline.
- International candidates must check the admission equivalences for the diploma they received in their country of origin.
- Exceptionally, applicants holding a master's degree without thesis may be considered provided their file includes scholarly publications or equivalent evidence of their capacity for advanced research.
- Identify at least one professor in the program whose research interests correspond to yours and who is willing to supervise your research and thesis. We recommend that you contact potential thesis supervisors as soon as possible.
- Meet the following additional coursework requirements set by the Admissions Committee:
  - Students whose master's degree was in an area other than Digital Transformation and Innovation may be required to take up to 12 units of additional courses beyond the 9 units normally required for the PhD. The additional coursework would consist of the following:
    - DTI 7100, or an equivalent course.
    - At least one course (3 units) in a field other than the candidate's chosen field of research, to be chosen from the list of optional courses in the program.
    - The additional coursework is defined by the Admissions Committee, in consultation with the potential supervisor and the Graduate Studies Committee, and is specified in the student's letter of admission.

Language Requirements

Most courses are delivered in English as the international language for advanced information technology. However, the program will provide an appropriately supportive environment for francophone students to develop professional competence in technical English at their own pace. Students have the right, as stipulated in the University's bilingualism regulations (Academic Regulations I-2), to complete all their work, including their thesis, in the official language of their choice (French or English). There are fully bilingual professors and advisors who can support students in French.

Applicants whose first language is neither French nor English must provide proof of proficiency in the language of instruction through one of the following two requirements or one of the language tests below.

- Proof of completion within the last five years, of a previous degree program in an English language university.
- Proof of recent prolonged residence and exercise of a profession in an English speaking country (normally at least four years over the last six years).

Language tests recognized by the University of Ottawa:

- TOEFL minimum score of 600 (paper-based) with a minimum score of 50 on the written and 50 on the spoken or a minimum score of 100 (internet-based).
- IELTS minimum score of 7 for 3 of the 4 tests (Reading, Listening, Writing, Speaking) and a minimum score of 6 in the fourth test.
- A score of at least 14 on the CANTEST, with no individual test score below 4.0, along with a minimum score of 4.5 on the oral component of the test.

Note:

- Candidates are responsible for any fees associated with the language tests.
- Test scores cannot be more than two-years-old as of September 1 of the year of potential entry into the program.

Notes

- The admission requirements listed above are minimum requirements and do not guarantee admission to the program.
- Admissions are governed by the academic regulations (https://www.uottawa.ca/about-us/leadership-governance/policies-regulations/) in effect for graduate studies.

Fast-Track from Master's to PhD

Students enrolled in the MSc program in Digital Transformation and Innovation at the University of Ottawa may be eligible to fast-track directly into the doctoral program without writing a master's thesis, provided the following conditions are met:

- Completion of 12 units of MSc courses with a minimum average pf 8.5;
- Written recommendation from the proposed PhD thesis supervisor;
- Written recommendation from the Graduate Program Committee.

Program Requirements

Requirements for this program have been modified. Please consult the 2025-2026 calendars (http://catalogue.uottawa.ca/en/archives/) for the previous requirements.

Doctorate

Students must meet the following requirements:[1]

Compulsory Courses:		
DTI 8101	Interdisciplinary Doctoral Seminar in Digital Transformation and Innovation I	3 Units
DTI 8102	Interdisciplinary Doctoral Seminar in Digital Transformation and Innovation II	3 Units
3 optional course units from the list of optional courses [2]		3 Units
Comprehensive Examination:		
DTI 9998	Comprehensive Exam [3]	
Thesis Proposal:		
DTI 9997	Doctorate Thesis Proposal [4]	
Thesis:		
THD 9999	Doctoral Thesis [5]	

Note(s)

1. The requirements outlined above are minimum. For information about additional courses, please see the Admissions Requirement section.
2. The optional course must be selected from the list of courses in the student's chosen field and must be preapproved by the Thesis Advisory Committee
3. The comprehensive examination is a two-part examination (written and oral) this is overseen by the Advisory Committee. Once the written exam has been passed, the student proceeds to the oral. A student who fails either component of the exam is allowed to repeat it the following term. A second failure in either component leads to withdrawal from the program. The comprehensive examination must normally be completed within 4 terms of commencing the program and, at the latest, by the end of the fifth term. Failure to sit and pass the examination by the deadline counts as a failure. Further details about the comprehensive exam are posted on the program's website.
4. The thesis proposal, prepared under the direction of the thesis supervisor, must be defended to the satisfaction of the Thesis Advisory Committee (TAC). The proposal must normally be successfully completed by the end of the fifth term. In the event of failure, the proposal can be resubmitted and defended the following session at the latest. A second failure leads to withdrawal from the program. The proposal must be successfully defended before submitting it to the research Ethics Board (if required) and before undertaking and independent data collection. Further details about the thesis proposal are posted on the program's website.
5. Students are responsible for ensuring they have met all of the thesis requirements (https://www.uottawa.ca/graduate-studies/students/theses/).

Lists of Optional Courses

Management Orientation		
ADM 6277	E-Business Energy Management	1.5 Units
ADM 6286	International E-Business Strategies for DTI	1.5 Units
ADM 6420	Digital Marketing	1.5 Units
DTI 5124	Internet Technologies and Mobile Commerce	3 Units
DTI 5125	Data Science Applications	3 Units
DTI 5126	Fundamentals for Applied Data Science	3 Units
DTI 5990	Directed Readings I	1.5 Units
DTI 5991	Directed Readings II	1.5 Units
DTI 6105	Design Thinking	1.5 Units
DTI 6130	Cloud Services Architecture	1.5 Units
DTI 6160	Cyber Security Strategy, Architecture and Governance	3 Units
DTI 6220	Data Analytics and Business Intelligence	1.5 Units
DTI 6300	Topics in Digital Transformation and Innovation	3 Units
DTI 6301	Topics in Digital Transformation and Innovation	1.5 Units
DTI 6302	Topics in Applied Data Science	3 Units
DTI 6303	Topics in Applied Data Science	1.5 Units
DTI 6304	Topics in User Experience Design	3 Units
DTI 6305	Topics in User Experience Design	1.5 Units
EMP 6362	Project Management	3 Units
MBA 5270	Knowledge and Information Management	1.5 Units
MGT 6111	Venture Capital and Private Equity	3 Units
MGT 6160	Systems of Innovation	3 Units
POP 8950	Special Topics in Population Health	3 Units
Technology Orientation		
CSI 5122	Software Usability	3 Units
CSI 5180	Topics in Artificial Intelligence	3 Units
CSI 5311	Distributed Databases and Transaction Processing	3 Units
CSI 5386	Natural Language Processing	3 Units
DTI 5175	Mobile Commerce Technologies	3 Units
DTI 5389	Electronic Commerce Technologies	3 Units
DTI 6287	Business Intelligence Technologies Big Data Analytics	1.5 Units
DTI 6402	Affective and Persuasive Computing	3 Units
ELG 5121	Multimedia Communications	3 Units
ELG 5142	Ubiquitous Sensing for Smart Cities	3 Units
ELG 5373	Data Encryption	3 Units
GNG 5100	Introduction to Engineering Management	3 Units
GNG 5120	Technology entrepreneurship for Engineers and Computer Scientists	3 Units
GNG 5122	Operational Excellence and Lean Six Sigma	3 Units
GNG 5130	Communication and Influence for Engineers	3 Units
GNG 5300	Topics in Engineering	3 Units
GNG 5301	Professional Skills and Responsibility	3 Units
GNG 5310	Topics in Industry Practice	3 Units
GNG 5140	Engineering Design	3 Units
GNG 5141	Creativity and Innovation	3 Units
Creative Arts and Humanities Orientation		
AHL 5300	Creativity and Innovation	3 Units
CMN 5110	Social History of Communication Technologies	3 Units
CMN 5140	Communication, Globalization and Change	3 Units
CMN 5900	Directed Studies in Communication	3 Units

DTI 6102	User Experience Principles and Practices	1.5 Units
DTI 6103	User Research	1.5 Units
DTI 6104	Interaction Design	1.5 Units
DTI 7103	Visual Literacy and User Experience Design Principles	3 Units
ISI 6300	Special Topics in Information Studies	3 Units
ISI 6312	Global Information and Communications Policy	3 Units
ISI 6343	Technologies for the Management of Digital Assets	3 Units
ISI 6351	Social Media	3 Units
ISI 6353	Access and Services to Diverse Populations	3 Units
ISI 6381	Knowledge in Organizations	3 Units

Research

Research at the University of Ottawa

Located in the heart of Canada's capital, a few steps away from Parliament Hill, the University of Ottawa ranks among Canada's top 10 research universities. Our research is founded on excellence, relevance and impact and is conducted in a spirit of equity, diversity and inclusion.

Our research community thrives in four strategic areas:

- Creating a sustainable environment
- Advancing just societies
- Shaping the digital world
- Enabling lifelong health and wellness

From advancing healthcare solutions to tackling global challenges like climate change, the University of Ottawa's researchers are at the forefront of innovation, making significant contributions to society and beyond.

Courses

DTI 5115 Communication Ethics (3 units)

Emphasis on the significance of ethical principles and responsibilities of public communicators, as well as sanctions faced when communicators fail to uphold these principles. Critique of self-regulation of the media. Analysis of argumentation. Study of legal precedents with respect to defamation.

Course Component: Seminar

DTI 5124 Internet Technologies and Mobile Commerce (3 units)

An examination of current Internet technologies, protocols and wired and wireless infrastructures. Analysis of current Internet-based businesses and consumer applications and services. Discussion of mobile commerce business models and strategies and their relevant technologies. Hands-on experience with discussed technologies and applications. Students will complete a project demonstrating and analyzing how an Internet-based application or service could be applied in their field of graduate study.

Course Component: Lecture

The courses DTI 5124, GNG 5124 cannot be combined for units.

DTI 5125 Data Science Applications (3 units)

Analysis and design of various data cleaning, wrangling, blending, and visualization, statistical inference, classification, clustering, regression, and content analysis methods. Use of machine learning algorithms to extract meaningful information from data to make decisions. Formulating analytics problems for business and developing, evaluating, and maintaining machine learning models. Analyzing, generating, and communicating insights on the models. Hands-on experience with an integrated set of current data analytics, data mining, and machine learning tools.

Course Component: Lecture

Courses CSI 5155, CSI 5387, DTI 5125, DTI 5126, DTO 5120, GNG 5125, MIA 5126, SYS 5170 cannot be combined for units

DTI 5126 Fundamentals for Applied Data Science (3 units)

Essential data science concepts relevant to practical applications are covered including: problem formulation; data acquisition; data pre-preprocessing, modeling and statistical analysis. Hands on experience with data science tools and techniques including: supervised and unsupervised machine learning; presentation of results; applications in areas such as accounting, finance, marketing and supply chain management.

Course Component: Lecture

Courses DTI 5126, DTI 5125, DTO 5120, IAI 5120, MIA 5126, SYS 5170 cannot be combined for units.

DTI 5175 Mobile Commerce Technologies (3 units)

Wireless and mobile electronic commerce architecture and applications. Electronic banking, digital cash. Wireless exchanges, business models. Fixed and mobile wireless networks. Routing techniques. Content presentation. Security issues and solutions. Satellite networks for electronic commerce. Overview of relevant standards, protocols and technologies. Case studies.

Course Component: Lecture

DTI 5310 Ethics for Design, AI, and Robotics (3 units)

Artificial Intelligence technologies are becoming ever more present in applications like: automated vehicles and mobility-as-a-service (e.g. driving and system-level control algorithms); business intelligence (e.g. predictive resource allocation); consumer electronics (e.g. social robots and smart speakers); healthcare (e.g. image classification in medical imaging); the justice system (e.g. recidivism prediction and sentencing); and weapons systems (e.g. targeting and kill decision-making). Many of these applications are raising significant ethical concerns. A range of topics in applied technology ethics are examined through the lens of contemporary philosophy and applied ethics texts and popular media articles. Practical frameworks, methodologies and tools for anticipating, and addressing, ethical issues are introduced through hands-on, group-based design thinking workshops and projects.

Course Component: Lecture

Courses CSI 5195, DTI 5310, DTO 5310, ELG5295, IAI 5130 and SYS 5295 cannot be combined for units. This course is reserved for students registered in a Computer Science Program with a Concentration Applied Artificial Intelligence.

DTI 5389 Electronic Commerce Technologies (3 units)

Introduction to business models and technologies. Search engines. Cryptography. Web services and agents. Secure electronic transactions. Value added e-commerce technologies. Advanced research questions.

Course Component: Lecture

The courses DTI 5389, DTO 5389 cannot be combined for units.

DTI 5902 Projet en entreprise / Industry Project (6 crédits / 6 units)

Les étudiants participent à des lectures hebdomadaires sur des sujets tels que le travail en équipe, la gestion de projet et le processus de conception. Travaillant en équipe, ils entreprennent un projet basé sur un client et reçoivent les conseils d'un conseiller technique. / Students participate in weekly lectures covering topics such as teamwork, project management, and the design process. Working in teams, they undertake a client-based project and receiving guidance from a technical advisor.

Volet / Course Component: Recherche / Research

Préalable : GNG 5301. Les cours DTI 5902, ELG5901, ELG5902 et GNG 5902 ne peuvent être combinés pour l'obtention de crédits. / Prerequisite: GNG 5301. The courses DTI 5902, ELG 5901, ELG 5902, and GNG 5902 cannot be combined for units.

DTI 5990 Études dirigées / Directed Readings I (1.5 crédits / 1.5 units)

Volet / Course Component: Recherche / Research

DTI 5991 Études dirigées / Directed Readings II (1.5 crédits / 1.5 units)

Volet / Course Component: Recherche / Research

DTI 6102 User Experience Principles and Practices (1.5 units)

User experience (UX) facets including functionality, usability and desirability as key success factors for technology adoption and acceptance; Human-computer interaction (HCI) theories; UX frameworks and patterns for interaction design, information design, and visual design; UX management best practices; UX design methods and tools; UX evaluation and usability engineering.

Course Component: Lecture

The courses DTI 6102, DTI 6103, DTO 6106 cannot be combined for units.

DTI 6103 User Research (1.5 units)

Understanding users' behaviours, needs, motivations and challenges in user experience (UX); Common user research methods including interviews, surveys, focus groups, contextual inquiries; Principles and guidelines for generative & evaluative research; methods in qualitative and quantitative user research; Tools and techniques for in-person and remote research, and moderated vs automated approaches; heuristic evaluations and usability testing.

Course Component: Lecture

The courses DTI 6103, DTI 6102, DTO 6106 cannot be combined for units.

DTI 6104 Interaction Design (1.5 units)

Principles of interaction design (IxD); Usability heuristics for user interface (UI) design; IxD tools and techniques including sketching, wireframing, and prototyping; UI design patterns for navigation, landing pages, search, and e-commerce; IxD best practices for mobile application design.

Course Component: Lecture

The courses DTI 6104 and DTO 6107 cannot be combined for units.

DTI 6105 Design Thinking (1.5 units)

Design thinking as a collaborative creative process for problem-solving and designing human-centered solutions. Design thinking for driving business innovation, new product development, and customer experience. Best practices for design inspiration, ideation and implementation; essential design research skills for empathy, listening, collaboration, observation, critical analysis, and experimentation. Design Thinking tools and techniques including visualization, mapping, storytelling, rapid prototyping, and testing.

Course Component: Lecture

The courses DTI 6105 and DTO 6107 cannot be combined for units.

DTI 6130 Cloud Services Architecture (1.5 units)

Evolution of Web and Cloud Services Architecture (SOA, WOA, REST, microservices). API Economy and Business Models. Core web service infrastructure components (compute, network, databases, and storage). Cloud resource and policy management tools. Cloud services adoption frameworks and maturity models. Cloud services technology and management best practices.

Course Component: Lecture

DTI 6160 Cyber Security Strategy, Architecture and Governance (3 units)

Cyber security planning principles, processes and practices. Cyber security program and risk frameworks. Threat actor profiles and motivations. Cyber risk assessment. Technical, managerial and human behavioural factors in cyber security. Security architecture and controls. Cyber threat intelligence. Case studies in cyber security crisis management.

Course Component: Lecture

The courses DTI 6160, MIA 6160 cannot be combined for units.

DTI 6220 Data Analytics and Business Intelligence (1.5 units)

Role of data analytics and business intelligence in driving business decision-making. Topics include techniques for data collection and preprocessing, understanding data warehousing and storage solutions such as data marts, data lakes, and ETL processes. Emphasis on exploratory data analysis and visualization using tools like Tableau and Power BI, with applications in creating interactive dashboards and conducting descriptive statistics. Predictive and descriptive modeling techniques, including linear regression, decision trees, and clustering, are introduced using Weka or other no-code/low-code tools. Applications focus on business use cases such as forecasting, customer segmentation, sales prediction, and CRM insights, including churn prediction.

Course Component: Lecture

DTI 6287 Business Intelligence Technologies & Big Data Analytics (1.5 units)

Business Intelligence (BI) as a concept; review of major BI tools and methods; identification of the right types of BI for different types of decision making environments; introduction to Big Data; business applications of Big Data; review of the supporting technologies such as data bases and data warehouses and Big Data Platforms for integrating structured and unstructured data including Hadoop, sandbox analytics; Streaming Analytics, and advances in data warehousing appliances that accelerate analytics.

Course Component: Lecture

Courses DTI 6287, ADM 6287 and ADM 6275 cannot be combined for units.

DTI 6300 Topics in Digital Transformation and Innovation (3 units)

Recent and advanced topics in the field of Digital Transformation and Innovation and its related areas. Topics vary from year to year.
Course Component: Lecture

DTI 6301 Topics in Digital Transformation and Innovation (1.5 units)

Recent and advanced topics in the field of Digital Transformation and Innovation and its related areas. Topics vary from year to year.
Course Component: Lecture

DTI 6302 Topics in Applied Data Science (3 units)

Recent and advanced topics in the field of Applied Data Science and its related areas. Topics vary from year to year.
Course Component: Lecture

DTI 6303 Topics in Applied Data Science (1.5 units)

Recent and advanced topics in the field of Applied Data Science and its related areas. Topics vary from year to year.
Course Component: Lecture

DTI 6304 Topics in User Experience Design (3 units)

Recent and advanced topics in the field of User Experience Design and its related areas. Topics vary from year to year.
Course Component: Lecture

DTI 6305 Topics in User Experience Design (1.5 units)

Recent and advanced topics in the field of User Experience Design and its related areas. Topics vary from year to year.
Course Component: Lecture

DTI 6402 Affective and Persuasive Computing (3 units)

Overview of human affective models and affect modalities. Design and development of affect estimation algorithms using artificial intelligence. Modality fusion and multimodal affect estimation. Persuasive technology and its applications. Persuasion design and persuasive strategies. Application of persuasive strategies in serious gaming. Current challenges in the fields of affective computing and persuasive technology.
Course Component: Lecture

DTI 6700 Thèmes choisis en affaires électroniques (3 crédits)

Sujets actuels et avancés en affaires électroniques et disciplines connexes. Les sujets varient d'une année à l'autre.
Volet : Cours magistral

DTI 6701 Thèmes choisis en affaires électroniques (3 crédits)

Sujets actuels et avancés en affaires électroniques et disciplines connexes. Les sujets varient d'une année à l'autre.
Volet : Cours magistral

DTI 6900 Stage international / International Work Term (3 crédits / 3 units)

Expérience pratique dans un milieu de travail international. Noté S (satisfaisant) / NS (non satisfaisant) selon les résultats de rapport écrit et l'évaluation de l'employeur. / Practical international experience.
Volet / Course Component: Cours magistral / Lecture

DTI 6950 Lectures dirigées / Directed Readings (1.5 crédits / 1.5 units)

Volet / Course Component: Cours magistral / Lecture

DTI 6997 Projet de recherche / Research project (6 crédits / 6 units)

Le sujet de recherche, ainsi que le professeur qui va le diriger, doivent être approuvés par la direction du programme avant l'inscription à la troisième session. Le sujet peut être de nature théorique (par exemple, une évaluation de la documentation ou une étude de la littérature scientifique) ou appliquée (par exemple, des études de cas). Un mémoire, d'une cinquantaine de pages, doit être rédigé et approuvé par le professeur qui le dirige ainsi qu'un autre professeur. / The research topic and the professor who will direct it must be approved by the program director prior to registration in the third session. The topic can be theoretical (for instance, based on a documentation assessment or a review of the scientific literature) or applied (based on case studies). A research paper, about 50 pages long, must be written and approved by the project director and another professor.
Volet / Course Component: Recherche / Research

DTI 7101 Research Workshop in Digital Transf. and Innovation (1.5 units)

Writing a Research Project proposal including problem formulation and work plan. Essentials of graduate report writing, information management, literature search techniques and reference management. Research ethics including academic integrity and avoiding academic fraud.
Course Component: Lecture

DTI 7102 Interdisciplinary Research Methods in Digital Transf. and Innovation (1.5 units)

Writing a Thesis Proposal. Research design. Introduction to positivist and interpretive approaches, behavioral and design science research, qualitative and quantitative research methods, and sampling strategies and techniques.
Course Component: Lecture

DTI 7103 Visual Literacy and User Experience Design Principles (3 units)

Fundamentals of visual, and interaction design theories and principles as they relate to User Experience Design (UXD). A series of assignments focus on building visual literacy through guided observations, visual design critiques, and visual redesigns of existing screen-based digital products (i.e. website, interactive kiosk interface, mobile app etc.). Students will complete a design project. Students will conduct research and scholarship in visual literacy, and UXD and justify their design decisions in writing.
Course Component: Lecture
The courses DTI 7103, DTO 7103 cannot be combined for units.

DTI 7990 Proposition de thèse / Thesis Proposal

Volet / Course Component: Recherche / Research

DTI 8101 Interdisciplinary Doctoral Seminar in Digital Transformation and Innovation I (3 units)

Recent developments in Digital Transformation and Innovation research. Critical analysis of theories, models, and methods. Critical synthesis of the field literature from different perspectives. Students will write a systematic survey paper of the literature relevant to their research in one of the three fields of the program. The paper must be in a different field from that selected for the paper in DTI 8102. Course reserved for students in the Digital Transformation and Innovation PhD program.
Course Component: Seminar

DTI 8102 Interdisciplinary Doctoral Seminar in Digital Transformation and Innovation II (3 units)

Recent developments in Digital Transformation and Innovation research. Critical analysis of theories, models, and methods. Critical synthesis of the field literature from different perspectives. Students will write a systematic survey paper of the literature relevant to their research in one of the three fields of the program. The paper must be in a different field from that selected for the paper in DTI 8101. Course reserved for students in the Digital Transformation and Innovation PhD program.
Course Component: Seminar

DTI 9997 Projet de thèse doctoral / Doctorate Thesis Proposal

Volet / Course Component: Recherche / Research

DTI 9998 Examen général de doctorat / Comprehensive Exam

Volet / Course Component: Recherche / Research