

DOCTOR OF PHILOSOPHY IN INTERDISCIPLINARY SCIENCES

What is the PhDIS Program?

- PhDIS is an entrepreneurial program that allows students with a BS or MS degree to pursue their dreams in developing a product that can be used to create a new business opportunity.
- PhDIS is a truly multi-disciplinary program where students with diversified current backgrounds can pursue the dream of building their own solutions to the world's most challenging problems.

PhDIS Program Deliverables

- The PhDIS delivers a powerful program designed to create experts in researching real life challenging problems and provide innovative solutions for such challenges.
- Fields of specialization could be related to Healthcare, Manufacturing, Transportation, Education, Social, etc.
- ITU's PhDIS program is offered as an innovative and flexible blended learning journey, in a global model setting, with live residencies to network with cohort peers, professors, and expert industry mentors.

PhDIS Program Learning Style

- The world is becoming increasingly connected with technological advances and social media.
- More than ever before, people are increasingly aware and interested in learning about technology, and its interactions with various aspects of global business.
- To accommodate the needs of the people resident in the U.S. and across the globe, ITU offers the PhDIS program in a global, blended learning format.

GENERAL REQUIREMENTS

To be awarded the degree of PhDIS you must successfully complete forty-eight (48) credit hours minimum. It includes the following requirements:

ITU Ph.D. IN INTERDISCIPLINARY SCIENCES

Degree Requirements	Credits
Three-Year Program minimum	
1 Coursework	33
2 Publications & Thesis Work	15
3 Contribution to the field of Interdisciplinary Science	*
4 Residencies (3)	*
Total	48

PROGRAM REQUIREMENTS

APPLICATION:

For complete information, please refer to ITU's website: <https://itu.edu/home/academics/interdisciplinary-sciences/phd-in-interdisciplinary-science/>

Exceptions may apply to select individuals upon Department Chair approval.

ADVISORY COMMITTEE:

- To guide students through the degree program, an advisory committee of at least three (3) faculty members with appropriate doctoral degrees, and an external mentor with subject matter and industry expertise, will be assigned.
- The Advisory Committee also may serve as the Doctoral Capstone Committee (DCC), which may include the Department Chair.
- The Doctoral Capstone Course Advisor will serve as the chair of DCC.
- The DCC will review the proposed doctoral capstone topic, determine any further changes, and approve the research objective.

THESIS ADVISOR

- It is the student's responsibility to obtain consent from a full-time faculty member in the student's major department to serve as her/ his prospective thesis advisor.
- Students are required to find a thesis advisor as soon as possible after being accepted as a Ph.D. student.
- The student and the thesis advisor jointly develop a complete program of study for research in a particular area.
- The complete program of study (and any subsequent changes) must be submitted to and approved by the student's advisor.

COURSE WORK AND STUDY PROGRAM:

- The students are expected to complete a minimum of 48 credit hours of graduate credit beyond the master's degree.
- Of these, 33 credit hours may be earned through coursework and independent study and 15 through the thesis.
- A maximum of 15 credit hours may be transferred from other accredited institutions at the discretion of the student's advisor.

PREREQUISITE REQUIREMENTS

- All courses listing a prerequisite requirement can be petitioned by the student for waiver and evaluated by the Academic Committee on a case-by-case basis.

COMPREHENSIVE EXAMINATIONS:

THESIS RESEARCH:

- The period following the comprehensive examinations is devoted to research for the thesis, although such research may begin before the examinations are complete.
- After a research topic is approved by the Doctoral Committee, the student should conduct thesis research toward the defined objective.

PUBLICATION:

- One or more refereed articles based on the thesis research must be accepted for publication in a professional or scientific journal approved by the Doctoral Committee.

THESIS DEFENSE:

- The thesis must be made available to all examiners one month prior to the examination.
- The oral examination shall consist of a presentation of the results of the thesis and the defense.
- Thesis defense is open to all faculty members of the University, but only members of the Doctoral Committee have a vote.

PROGRAM COMPLETION:

- At least one month before the degree is to be conferred, the candidate must submit to the Academic Quality Committee two copies of the final version of the thesis describing the research in its entirety.
- The candidate will submit the final draft of their thesis to ProQuest Dissertation Publishing. The Research Librarian is available to answer publication questions and assist students in this process.
- The thesis will not be considered as accepted until approved by the Doctoral Committee and publication acceptance.
- The University reserves the right to evaluate the undertakings and the accomplishments of the degree candidate in total, and award or withhold the degree because of its deliberations.

TIME LIMIT FOR COMPLETING DEGREES:

- All requirements for the doctoral degree must be completed within Six (6) years following acceptance for the Ph.D. program.
- Extensions will be allowed only in unusual circumstances and must be approved in writing by the Committee of Graduate Programs.

COURSEWORK

(i) Core Courses

6 courses for a total of 18 credit hours

- » PhDIS 800 Quantitative Research Analysis I (3 credit)
- » PhDIS 801 Quantitative Research Analysis II (3 credit)
- » PhDIS 802 Qualitative Research Analysis I (3 credit)
- » PhDIS 803 Qualitative Research Analysis II (3 credit)
- » PhDIS 804 System Engineering I (3 credit)
- » PhDIS 805 System Engineering II (3 credit)

(ii) Innovation Specialization Courses

3 courses for a total of 9 credit

- » PhDIS 810 AI & Data Science Applications (3 credit)
- » PhDIS 811 Data Visualization (3 credit)
- » PhDIS 812 Data Cloud Design & Implementation (3 credit)

(iii) Key Competency Courses

2 courses for a total of 6 credit

- » PhDIS 820 Theoretical Frameworks in Strategy Research (3 credit)
- » PhDIS 821 Research Design (3 credit)

CONTRIBUTION TO THE FIELD OF INTERDISCIPLINARY SCIENCE

Seminars and/or Conferences

- » PhDIS 710 Special Interest Seminars and/or Conferences (0 credit)

Students should complete at least four (4)

Seminars and/or Conferences (free or paid) in the area of their research interest. Students should start attending seminars and/or conferences from the very start of their doctoral program. The requirements for seminars and/or conferences must be completed prior to the final CCP presentation (i.e. PhDIS 822), which will occur in the third residency. Students may attend more than four seminars and/or conferences based on their interest.

COMPREHENSIVE CANDIDACY PORTFOLIO (CCP)

- » PhDIS 711 CCP Panel Presentation I (0 credit)
- » PhDIS 813 CCP Panel Presentation II (0 credit)
- » PhDIS 822 CCP Final Panel Presentation (0 credit)

The student from the start of his/her doctoral program develops the CCP, under the guidance of the doctoral supervisor(s) and/or mentor(s) in three stages. The CCP represents a student's

goals, plans, and accomplishments in coursework, special topics, learning from seminars and/or conferences, research, and work experiences. The process includes three (3) presentations by each student to a committee, which includes the faculty teaching the courses at the time of presentation and/or the external mentor.

These presentations will be scheduled as follows:

- » CCP Presentation I – Term 2 of Year 1
- » CCP Presentation II – Residency 2
- » CCP Final Presentation – Residency 3

CULMINATING EXPERIENCE (CE)

Candidates must choose one of the following three (3) doctoral capstone courses. Each of these courses is equal in terms of academic rigor.

- Doctoral Capstone Research (PhDIS 901), OR
- Doctoral Capstone Project (PhDIS 902), OR
- Doctoral Capstone Publishable Papers (PhDIS 903) (3 publishable papers)

Each capstone course consists of three (5) sections for a total of 15 credits.

- » PhDIS 901 – 1 Doctoral Capstone Research 1 (3 credit)
- » PhDIS 901 – 2 Doctoral Capstone Research 2 (3 credit)
- » PhDIS 901 – 3 Doctoral Capstone Research 3 (3 credit)
- » PhDIS 901 – 4 Doctoral Capstone Research 4 (3 credit)
- » PhDIS 901 – 5 Doctoral Capstone Research 5 (3 credit)
- OR
- » PhDIS 902 – 1 Doctoral Capstone Project 1 (3 credit)
- » PhDIS 902 – 2 Doctoral Capstone Project 2 (3 credit)
- » PhDIS 902 – 3 Doctoral Capstone Project 3 (3 credit)
- » PhDIS 902 – 4 Doctoral Capstone Project 4 (3 credit)
- » PhDIS 902 – 5 Doctoral Capstone Project 5 (3 credit)
- OR
- » PhDIS 903
- 1 Doctoral Capstone Publishable Papers 1 (3 credit)
- » PhDIS 903
- 2 Doctoral Capstone Publishable Papers 2 (3 credit)
- » PhDIS 903
- 3 Doctoral Capstone Publishable Papers 3 (3 credit)
- » PhDIS 903
- 4 Doctoral Capstone Publishable Papers 4 (3 credit)
- » PhDIS 903
- 5 Doctoral Capstone Publishable Papers 5 (3 credit)

Each of these courses requires the candidate to work on his/her doctoral proposal. .

DOCTORAL CAPSTONE PROPOSAL

- This is a formal written proposal, which must include a clear statement of the problem to be researched and a survey of the relevant literature.
- The proposal must specify the research methods, data collection, and data analysis techniques in detail. The methods to be employed must be appropriate, and reliable.
- In the event the DCC recommends additional work on the proposal, the candidate will have one more chance to present and defend his/her doctoral proposal, no later than six (6) months from the original presentation.

DOCTORAL CAPSTONE DEFENSE

- Upon successful presentation of the doctoral proposal, the candidate will progress to the development of his/her chosen doctoral capstone.
- The candidate will be required to defend his/her final doctoral capstone in the presence of the DCC. The final capstone document(s) must be made available to all members of the DCC one (1) month prior to the defense.
- The oral defense will take place in the final term of the third (3rd) year. It shall consist of a presentation of the research results and a question and answer (Q&A) session following the presentation.
- The defense is open to the public, but only members of the DCC have a vote. The doctoral capstone defense passes through unanimous voting.

INTERNSHIPS (INT)

In order to be competitive in today's economy, students must graduate with relevant work experience. Employers are looking for more seasoned employees who can add value from the start, so skill development is a key component of ITU's educational pedagogy. ITU places a strong emphasis on hands-on learning through internships, which link classroom learning to relevant industry experience. If you are an International Student, you must be in lawful F-1 or J1 status to be eligible to apply for an internship.

Note: Please refer to the Academic policy page for complete information about the Internship Policy.

INT 593 INTERNSHIPS Part-Time/Full-Time Internship (1/3-3)

Prerequisites: None

Not included as part of the 48 minimal number of units required for PhDIS graduation.

This course consists of participation in a full-time or part-time internship experience, related to the student's field of study under the supervision of both an approved internship provider and a faculty advisor. This course provides practical, hands-on training in a relevant industry to enhance classroom learning.

For more details, please consult the Academic policy page regarding the Internship Policy.