

# Graduate Institute of Information and Computer Education

## Contact Information

Contact: Ms. SHU  
 Tel: +886-2-7749-3935  
 Email: ice@deps.ntnu.edu.tw  
 Website: <https://www.ice.ntnu.edu.tw/index.php/en/main/>

## Introduction

The master's program of ICE started in 1991 and its Ph.D. program in 1997.

The six faculty members of ICE are all full-time professors renowned in their fields of expertise. They also play a leading role in the development of Taiwan's e-learning and computer education by actively participating in related policy-making.

## Instructional Objectives

Our mission is to prepare students at the master's and doctoral levels to become leaders in the professions of e-learning and computer education. Students focusing on e-learning studies are expected to graduate with adequate knowledge and skills to promote e-learning and be able to contribute to the modernization of education and training systems. Students concentrating on computer education studies shall acquire professional competency in implementing technology-enhanced learning and

computer science education at all school levels. This is accomplished by providing a high-quality, comprehensive educational experience for our students.



## Degree Requirements

The master's program requires completion of no less than 28 credits and a master's thesis, whereas students in the Ph.D. program are required to complete 24 credits of coursework and a dissertation. All of our courses can be taught in English.

### Credits Needed for Graduation: Ph.D. Program

Program Required Courses		Program Elective Courses
Required Credits	Elective Credits	Total Credits
4	24	28

### Credits Needed for Graduation: M.A. Program

Program Required Courses		Program Elective Courses
Required Credits	Elective Credits	Total Credits
10	18	28

## Feature of the Curriculum

We offer two tracks: Computer Science Education and Digital Learning. Both involve theories and practice for academic research and industry needs. Many of the courses engage students in projects where they work to put knowledge into practice. Some of these courses also provide students with internships or cooperative projects within the industry by which students can develop critical skills for future careers.

Our curriculum offers required and elective courses in e-Learning and computer science education. e-Learning courses include: Introduction to e-Learning, Instructional Design for e-Learning, e-Learning Management Systems, e-Learning Evaluation, Cognition and e-Learning, mobile e-Learning, User Interface Design for e-Learning, simulation-based e-Learning, Game-based e-Learning and Introduction to School ICT Integration.

Computer science education courses include: Introduction to Computer Science Education,

Computer Curriculum Planning, Computer Science Instructional Methods, Design and Development of Instructional Materials for Computer Courses, and Introduction to Computer Programming Instruction.

In addition, research methods and statistical courses are provided for students in both areas, these include Research Methods in Information and Computer Education (required), Advanced Applied Statistics (required), Statistical Data Analysis, Educational Statistics, and Qualitative Research Methods.



## Career Prospects

The two major career tracks are based on our two curriculum tracks:

### 1. Computer Science Education:

Computing teachers, system administrators, and section chiefs of information technology for K-12 education.

### 2. Digital learning:

Digital learning developers or lecturers, digital training coordinators or advisors, and digital media editors or managers.