

Minghsin University of Science and Technology

College of Semiconductor Technology

Academic Regulations Governing the Ph.D. Program in Semiconductor Technology

Approved by the Ph.D. Program Meeting on March 13, 2023

Amended by the Ph.D. Program Meeting on October 27, 2025

Article 1

The Ph.D. Program in Semiconductor Technology (hereinafter referred to as "the Program") is established to implement the Ministry of Education's Industry-Academia Collaboration Program for Cultivating Doctoral-Level R&D Talent.

The Program adopts a four-year doctoral education model. Doctoral students shall complete coursework during the first and second academic years and engage in full-time research and development in industry or research institutions while completing their dissertations during the third and fourth academic years. Students are expected to complete all degree requirements within four years.

Article 2

Each doctoral student shall be supervised by a full-time faculty member holding a doctoral degree and the rank of Assistant Professor or above from one of the following departments within the College of Semiconductor Technology:

Department of Electrical Engineering

Department of Electronic Engineering

Department of Semiconductor Engineering and Materials

Department of Semiconductor and Optoelectronic Technology

Article 3

Credit Requirements

The minimum graduation requirement for the Program is 48 credits.

Required courses include:

Semiconductor Engineering (I) (3 credits)

Semiconductor Engineering (II) (3 credits)

Seminar (I) (2 credits)

Seminar (II) (2 credits)

Industrial R&D Practice (I) (2 credits)

Industrial R&D Practice (II) (2 credits)

Industrial R&D Practice (III) (2 credits)

Industrial R&D Practice (IV) (2 credits)

Doctoral Dissertation (I) (3 credits)

Doctoral Dissertation (II) (3 credits)

Doctoral Dissertation (III) (3 credits)

Doctoral Dissertation (IV) (3 credits)

Doctoral Dissertation courses shall be taken during the third and fourth academic years. Students may enroll in these courses only after passing the Qualifying Examination. With the approval of the dissertation advisor, a student may enroll in two Doctoral Dissertation courses during the same semester.

Students shall complete at least 18 credits of professional elective courses. In addition, each doctoral student shall complete one graduate-level English language course (excluding professional courses) offered by the University. This course shall not be counted toward the graduation credit requirement.

Students who have previously completed an equivalent graduate-level English course during their master's studies may apply for a waiver. Alternatively, this requirement may be satisfied by achieving one of the following minimum English proficiency scores:

TOEIC: 550 or above

GEPT: Intermediate Level (First Stage) or above

TOEFL iBT: 53 or above

IELTS: 4.5 or above

Course registration shall be approved by the dissertation advisor. Students who have not yet selected a dissertation advisor shall obtain approval from the Program Director.

Doctoral students shall primarily take elective courses offered by departments within the College of Semiconductor Technology. With the approval of the dissertation advisor, students may also enroll in graduate courses offered by other colleges. However, no more than 9 credits from such courses may be counted toward the graduation requirement.

During the third and fourth academic years, doctoral students shall principally engage in full-time research and development at an approved industrial enterprise or research institution while completing their dissertations. The selected R&D organization shall be approved by the Program Committee. Any subsequent change of the R&D organization shall require prior application and approval.

Students participating in industrial or institutional R&D shall engage in full-time

technology development and complete Industrial R&D Practice for four consecutive semesters (8 credits in total). During this period, students may not enroll in other courses except Doctoral Dissertation, Seminar, and any additional professional courses required by the Doctoral Candidate Qualification Review Committee.

Article 4

Dissertation Advisor

Each student shall select a dissertation advisor within the first semester following enrollment.

A student may change the dissertation advisor only once. Any additional change due to exceptional circumstances shall require the approval of the Program Committee. The subjects for the Qualifying Examination shall be determined with the approval of the dissertation advisor. Students who have not selected a dissertation advisor are not eligible to apply for the Qualifying Examination.

Article 5

Qualifying Examination

All doctoral students shall be required to take the Qualifying Examination.

The examination shall, in principle, be conducted in written form. Students intending to take the examination shall submit an application within the prescribed period of each semester.

Students who fail to complete the Qualifying Examination requirements shall be dismissed from the Program.

Detailed regulations governing the Qualifying Examination shall be separately prescribed.

Article 6

Qualification Review for Doctoral Candidacy

Students who have completed all required coursework and passed the Qualifying Examination may apply for the Doctoral Candidacy Qualification Review.

Applicants shall submit the following documents:

Application form for Doctoral Candidacy.

Official transcript of the Qualifying Examination.

Official academic transcript.

Doctoral dissertation proposal, including research achievements obtained to date.

The Program Committee shall review whether the student's completed coursework, industrial R&D experience, and proposed dissertation research meet the professional requirements of the Program.

Where necessary, students may be required to complete additional professional elective courses.

Students who successfully pass the review shall be granted the status of Doctoral Candidate.

Article 7

Review Committee

The Review Committee shall be convened by the Program Director.

In addition to the student's dissertation advisor, the Committee shall include two faculty members holding doctoral degrees and the rank of Assistant Professor or above.

When necessary, R&D supervisors or senior professionals from collaborating industries may be invited to attend the meeting.

Article 8

Public Presentation of Research Achievements

After obtaining Doctoral Candidate status and before applying for the Doctoral Dissertation Defense, each doctoral student shall deliver at least one public presentation of his or her research achievements.

Article 9

Research Achievement Requirements

A doctoral student's research achievements shall be included in the graduation qualification review.

To satisfy the graduation requirements, a doctoral student shall accumulate at least five (5) research achievement points in accordance with the Program's Research Achievement Evaluation Guidelines.

The detailed criteria for calculating research achievement points shall be separately prescribed.

Article 10

Duration of Study

The minimum duration of study for the Program shall be four (4) years, and the maximum duration shall be seven (7) years.

Article 11

Eligibility for the Doctoral Dissertation Defense

A doctoral student who has obtained Doctoral Candidate status, accumulated the minimum research achievement points required under Article 9, obtained written approval from the dissertation advisor, and been approved by the Program Committee as meeting all graduation requirements may apply for the Doctoral Dissertation Defense.

Article 12

Doctoral Dissertation Defense

To ensure the originality and academic quality of the doctoral dissertation, doctoral students shall complete a dissertation originality check using the plagiarism detection system designated by the University prior to applying for the dissertation defense.

The overall similarity index shall not exceed 20%.

Students shall also complete the University's Dissertation Originality Verification and Professional Relevance Checklist and submit it together with all required application documents in accordance with the University's doctoral dissertation defense regulations.

The application shall be reviewed and approved by the Program's Dissertation Academic Review Committee before the student may proceed with the Doctoral Dissertation Defense.

Only students who successfully pass the Doctoral Dissertation Defense shall be awarded the degree of Doctor of Philosophy (Ph.D.).

A student who fails the defense may apply for one retake only.

Article 13

Supplementary Provisions

Any matters not specifically provided for in these Regulations shall be governed by the applicable laws, regulations, and relevant rules of Minghsin University of Science and Technology.

Article 14

Implementation

These Regulations shall take effect upon approval by the Program Committee and filing with the College of Semiconductor Technology.

Any amendments shall follow the same procedure.