

Fu Jen Catholic University Regulations Governing Study at the Graduate Institute of Applied Science and Engineering

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I. Credits

1. Required courses: 8 credits

(1)Seminar: 4 credits

(2)Individual Study: 4 credits

2. Electives: minimum of 15 credits (students who began studies including and prior to the 2006-2007 academic year must take a minimum of 16 credits)

(1) At least 12 credits in the student's field of research (students who began studies including and prior to the 2006-2007 academic year must take at least 13 credits).

(2)At least 3 credits outside of the student's field of research.

(3)The three credits earned from 「英文科技論文寫作」 do not count towards these credit requirements.

3. Ph.D. Dissertation: 12 credits

- (1) Examination dates: the written exam is conducted within the first month of a new semester. Applications for the written exam should be made before the end of final examination week during the previous semester. Dates for the oral exam are determined individually by each field of research. Applications for the oral exam should be made at the graduate institute one month prior to the date of the oral exam.
- (2) Deadlines for attending exams: Students may attend the exams beginning from the second semester of their Ph.D. program, and must complete the qualifying exam for Ph.D. candidacy before completion of their eighth semester, or they will be forced to withdraw from studies (These deadlines do not include semesters during a leave of absence. A student on a leave of absence may not attend the exam).
- (3) Composition of research and review committee:
 - A. The thesis advisor must hold the position of full-time assistant professor or higher at the College of Science and Engineering. After completion of the Designation of Research and Review Committee form and approval by the committee chairperson in the field of research, the form should be sent to the office of the graduate institute.
 - B. The research and review committee is composed of three members, each holding the position of assistant professor, assistant research fellow, or a higher position, at Fu Jen Catholic University or another university. The position of committee chairperson is held by the student's thesis advisor.

In addition to providing assistance and guiding the student's research, the members of the research and review committee are responsible for reviewing the thesis proposal, changes to the research topic or direction of research, research progress, and the oral examination for the doctoral degree.
 - C. If any changes are made to the composition of the research and review committee, the Graduate institute should be notified immediately, and a new Designation of Research and Review Committee form completed.
- (4) Exam regulations:
 - A. Written exam: Applicants may apply for an exam in a given subject no more than twice.
 - B. Oral exam: May be taken no more than twice. All three members of the research and review committee will serve as the oral examiners.
- (5) A student only becomes a Ph.D. candidate after passing the qualifying exam.
- (6) Changing a thesis advisor: Students must complete an application form signed by both the original and new thesis advisors. Only after approval from the Institute Council may the student change advisors. When necessary, the student may be required to retake the qualifying exam in whole or in part.

2. Guidelines for fields of research:

(1) Biotechnology

- A. Written exam: For students taking the exam in Advanced Biotechnology, the content and examination methods are to be decided by the research and review committee.
- B. Oral exam: The testing method is to be decided by the research and review committee.
 - C. The student must identify a thesis advisor and have a research and review committee established before the completion of their first academic year. At least one committee member must be from a university other than Fu Jen Catholic University.

(2) Opto-electronic Technology

- A. Written exam: The examination topics correspond with courses offered in this field of research. The student may select the topics and must pass two.
- B. Oral exam: The student must present a written research proposal within one year of passing the written test, and pass an oral exam conducted by the members of the research and review committee.

(3) Information Mathematics

- A. Written exam:
 - a. The examination topics correspond with courses offered in this field of research. The student may select the topics and must pass two of them.
 - b. Research areas: Computational Physics 、 Information Mathematics 、 Computational Chemistry 、 and Biomedical Statistics (choose one)
- B. Oral exam: the student must propose a research project related to their dissertation within one year of passing the written exam, and pass an oral exam conducted by the members of the research and review committee.

(4) Computer Engineering

- A. Written exam: Computer Organization 、 Operating System 、 Algorithms (choose one)
- B. Oral exam: after passing the written exam and identifying a thesis advisor, the student must draw up a research proposal and pass the oral exam conducted by the research and review committee.
 - a. After deciding on the direction of the thesis research, the student should propose a Ph.D. dissertation plan and provide it to the research and review committee for review.
 - b. The review process consists of an oral exam conducted by the research and review committee members based on the content of the dissertation plan. All members of the committee must be in unanimous agreement in order for the student to pass. A grade of 70 or higher is considered a pass.
 - c. If, for a valid reason, the student needs to change thesis advisors, they must present their thesis

research to the graduate institute and receive review.

(5) Electronic System Engineering

A. Topics and regulations for the written exam

- a. The examination topics correspond with courses offered in this field of research. The student may select the topics and must pass two.
- b. The student must also select and pass one examination topic that corresponds with a course offered by a field of research outside of their own.
- c. Majors: communication engineering 、 control engineering 、 VLSI / CAD engineering (choose one)
- d. All three exam topics must be approved by the thesis advisor.

III. Graduation requirements

1. Meet the credit requirements defined above.
2. Language requirements (The student must meet one of the following)
 - (1) Receive a bachelor's degree or higher from an English speaking country, or take two years of courses there.
 - (2) Receive a minimum grade of 550 on TOEFL, or 213 on the computerized TOEFL.
 - (3) Receive a grade of 70 or higher in 英文科技論文寫作 offered by the graduate institute (3 credits).
3. Requirements for the individual fields of research:
 - (1) Biotechnology: Ph.D. dissertation requires a minimum of two papers (at least one as a primary author) already published or accepted by a journal on the Science Citation Index (SCI).
 - (2) Opto-electronic Technology
 - A. Before applying for the oral exam, students need a minimum of two papers written in English and published or accepted by a journal on the SCI either in Taiwan or abroad.
 - B. At least one of the papers must be published abroad, and there may be only one primary author for each paper.
 - (3) Information Mathematics: a minimum of one paper published or accepted by a journal on the SCI.
 - (4) Computer Engineering: a minimum of two papers written in English that have published or accepted for publication.
 - (5) Electronic System Engineering: more than 2 papers published, with at least one published in a

journal on the SCI.

4. Oral examination:

(1) Those who meet the above requirements, obtain the agreement of their thesis advisor, and pass review from the research and review committee, may apply for the oral examination. Upon passing, the student will be granted a doctoral degree.

(2) The official titles of degrees granted by the program are 理工博士 in Chinese, and Doctor of Philosophy in English.

(3) There are five to nine oral examiners at the thesis defense. At least one third must be from universities other than Fu Jen Catholic University. The members should include the thesis advisor and all members of the research and review committee.

(4) The qualifications, selection, and appointment of Ph.D. examiners are determined by the oral exam regulations of the Graduate Institute of Applied Science and Engineering.

IV. Any matters not covered by the current regulations shall be handled according to Fu Jen Catholic University Regulations for the Master's and Doctoral Degree Examination and Dissertation Defense.

V. These regulations have been passed by the Institute Council, College Council, and Academic Affairs Council, and will be promulgated and implemented upon approval of the president. The same procedure will be followed for each amendment.