**PhD Program**

**Industrial Engineering and Management Department, Yuan Ze University**

(Applicable for the students enrolled in the academic year 2023/2024)

Passed by the 3th IEM Department Meeting, Academic Year 2023, on October 11, 2023

* **Course Requirements**

A minimum of 33 credit hours are required for graduation, which includes 27 credit hours for elective courses and 6 credit hours for dissertation.

* **Fundamental Qualifying Examination**
1. Graduate students are required to complete three out of the following five courses (taken in undergraduate or master period can be counted) in order to pass the Fundamental Qualifying Exam. The corresponding substitutes are also listed below:

|  |  |
| --- | --- |
| **Fundamental Qualifying Course Name****(Undergraduate Level)** | **Substitute Course Name****(Graduate Level)** |
| Production Planning and Control (I) | Advanced Production Planning and ControlProduction SchedulingProduction Planning |
| Quality Control (with lab) | Advanced Quality Control |
| Engineering Statistics | Experimental DesignProbabilistic Analysis |
| Operations Research | Mathematical Programming (I) |
| Facilities Planning (with lab) | Advanced Facility Planning |

1. The abovementioned substitute courses can be counted toward the elective courses requirement if they are taken while studying during the IEM PhD program.
2. The ”Dissertation Adviser Agreement” must be completed and turned in after passing the Fundamental Qualifying Exam signed by the dissertation adviser.
* **Advanced Examination**

Student is required to complete the Fundamental Qualifying Examination and the course requirements before applying for the Advanced Examination. TheAdvanced Examination related rules are as follows:

1. Graduate student must complete the Academic Research Ethics Education Course according to the regulations of Yuan Ze University Academic Research Ethics Education Course Implementation Highlights, before the end of the first academic semester. At the latest, the course must be completed and passed before the Advanced Examination application. The student will not be allowed to proceed the Advanced Examination without completing the Academic Research Ethics Education Course completion.
2. PhD Graduate students should complete the Advanced Examination within the first 4 academic years (not including temporary leaves).
3. Prior to the Advanced Examination, the student must turn in the Application Form of the PhD Advanced Examination.
4. In accordance with the specialty and requests of dissertation committee members, the examination may be conducted in written, oral or both formats. The committee must be comprised of a minimum of three members (include the dissertation advisor), at least 1/3 of which should be associate (or above level) professor.
5. Upon completions of the Fundamental Qualifying Examination and Advanced Examination, the student becomes a PhD candidate.
* **Dissertation Proposal Defense**

Three months after passing the Advanced Examination, the PhD candidate can apply for the Dissertation Proposal Defense and form the dissertation committee comprising at least 5 members (including dissertation advisor) from in and outside of YZU with 1/3 or above from each. The related rules are as follows:

1. The committee members from the IEM department shall be the same as in the Advanced Exam. If any changes are needed, the PhD candidate must apply and obtain the committee agreement with IEM approval.
2. The committee is responsible for conducting oral examination with respect to the proposal and its relevance to the Industrial Engineering and Management professional field. A written examination of a specialized subject related to the proposed research may be requested by the committee.
3. Prior to the Proposal Defense, the PhD candidate must turn in ”Dissertation Proposal Check List”, ”Dissertation Advisor’s Recommendation” and ”Dissertation Proposal Form”. The student must turn in ”Dissertation Proposal Approval Form” after passing the Dissertation Proposal Defense.
* **Dissertation Defense**

Dissertation Defense can only be applied after three months of the Dissertation Proposal Defense and the completion of publication requirements. The related rules and regulations are as follows:

1. Two or more articles must be published in renowned journals, with at least one in SSCI/SCI class journals or two in EI class journals. The published articles must originate from and directed related to the dissertation and must be accepted with proven acceptance letters to satisfy publication requirements. Other than student’s dissertation adviser, the student needs to be the first author of the published articles. If the following situations occur, the number of papers will be counted differently:
	1. Articles with author(s) who is (are) not the student’s committee member(s): can only be counted as one-half paper.
	2. Articles with authors of other students: can only be counted as one-half paper.
	3. Articles with both cases i.) and ii.): can only be counted as one-fourth paper.
2. One or more conference papers are published in domestic or international conference proceedings and presented in international conference.
3. Committee members should be the same for both the Dissertation Proposal Defense and the Dissertation Defense. If not, the student must apply and obtain the committee agreement with IEM approval.
4. PhD students should complete the originality check for their dissertation before the defense, with a standard no higher than 20% for the comparison report. On the day of the defense, students should submit the "Dissertation Originality Comparison Report" to the advisor and the committee for review, and undergo an oral examination and a professional field conformity check. After completing the defense, students need to conduct another originality check on the final version of the dissertation and have it confirmed by the advisor. The final version of "Dissertation Professional Field Conformity Check Form," "Dissertation Originality Comparison Report," and the dissertation should be submitted to the department office for record.
5. Prior to the Dissertation Defense, the PhD candidate must turn in the ”Dissertation Defense Check List”. After the Dissertation Defense, the ”Final Defense Grading Report” and the ”Dissertation Defense Report Form” must be turned in to the IEM office.

**◎This regulation has been implemented with the approval of IEM departmental meeting. Any amendment will also be implemented with the same process.**