

**DEPARTMENT OF ELECTRICAL ENGINEERING, NATIONAL TAIPEI
UNIVERSITY OF TECHNOLOGY**

Implementation Regulations for Postgraduate Qualification Examination

- Approved by the Department Affairs Meeting on 10 June 2008
- First amendment approved by the Academic Review Committee Meeting on 10 August 2009
- Second amendment approved by the Academic Review Committee Meeting on 29 June 2010
- Third amendment approved by the Academic Review Committee Meeting on 14 October 2010
- Fourth amendment approved by the Department Affairs Meeting on 19 January 2011
- Fifth amendment approved by the Department Affairs Meeting on 4 October 2011
- Sixth amendment approved by the Department Affairs Meeting on 1 July 2015
- Seventh amendment approved by the Department Affairs Meeting on 4 October 2016
- Eighth amendment approved by the Department Affairs Meeting on 27 June 2017(replaced by the tenth version)
- Ninth amendment approved by the Department Affairs Meeting on 26 September 2017(replaced by the tenth version)
- Tenth amendment approved by the Department Affairs Meeting on 16 January 2018
- Eleventh amendment approved by the Department Affairs Meeting on 25 June 2019

- I. The present regulations are established based on Article VII of the “National Taipei University of Technology Policies for Ph.D. Candidate Qualifying Examination.”
- II. Each postgraduate student must select two advanced subjects listed in Table 1. The international students must select two advanced subjects taken at the College of Electrical Engineering and Computer Science (EECS). Failed exams may be re-taken for a maximum of two times. Students may choose to change one subject they have failed with another subject in their major. Students may re-take the qualification examination of the changed subject once if he/she failed the initial qualification examination.

Table 1. Subject list for qualification examination

| | Power Field | Power Electronics Field | Control Field | Communication Field | Computer Field |
|------------------------------|--|---|--|--|--|
| Advanced Subjects (Graduate) | 1. Power System Operation and Control 2. Power System Quality 3. Power System Protection and Coordination 4. Power System Fault Analysis 5. AC Motor Control | 1. Special Project on Inverter 2. Theory and Control of Permanent-Magnet Synchronous Motor 3. Power Electronic Devices 4. Analysis and Design of Power Electronics Circuit 5. Design of Switching Mode Power Supply 6. Power Electronics Application 7. Electronic circuit Analysis and Design 8. Power Management IC Design | 1. Modern Control Theory 2. Adaptive Control 3. Advanced Robotic Manipulation 4. Fuzzy Control 5. Optimal Controls 6. Robust Control 7. Digital Control Theory and Application 8. AC Drive Control 9. Artificial Intelligence Control 10. Neural Network 11. Advanced Linear Systems 12. Controller Design and Applications | 1. Advance Digital Signal Processing 2. Random Processes 3. Digital Communication Theory 4. Advanced Digital Image Processing 5. Introduction to Optimization 6. Detection and Estimation | 1. Database 2. Issues Related to Manufacturing and Reliability 3. Advanced Analog IC Design 4. Internet Engineering 5. Pattern Recognition 6. Information Theory 7. Detection and Estimation 8. Advanced FPGA system design |

- III. Postgraduate students may request to use SCI journal papers to exempt them from the qualification examinations. The submitted papers must comply with the Department's scoring regulation of three points or greater. **One paper may exempt two subjects.** The student must be the first author of the submitted paper, excluding his/her advisor/co-advisor. Papers may only be submitted once. Submitted papers do not count towards graduation points.
- IV. Students who completed an advanced subject in the Department during their graduate or postgraduate program and attained a grade among the top 30% of their class may be exempted from taking the qualification examination. The candidate have to participate in midterm and final exams for the subject.
- V. Postgraduate students' requests for the exemption of qualification examinations must be approved by their advisor. Requests must be submitted to relevant Department personnel.
- VI. The present regulations are applicable to postgraduate students of 2019 and onwards. They are applicable to postgraduate students of 2018 and prior.
- VII. The present regulations shall be implemented following the approval of Department Affairs. The same procedure shall be carried out when amendments are made.