

Republika ng Pilipinas  
(Republic of the Philippines)  
KAGAWARAN NG EDUKASYON, KULTURA AT ISPORTS  
(DEPARTMENT OF EDUCATION, CULTURE AND SPORTS)  
Maynila

November 6, 1987

DECS ORDER  
No. 110, s. 1987

POLICIES AND STANDARDS FOR ENGINEERING GRADUATE PROGRAMS

To: Bureau Directors  
Regional Directors  
Presidents, State Colleges and Universities  
Heads of Private Schools, Colleges and Universities

1. The inclosed set of policies and standards approved by this Office upon the recommendation of the Technical Panel for Engineering Education (TPEE) and the Bureau of Higher Education, embodies the principles and guidelines for the establishment and operation of engineering graduate programs.
2. This set of policies and standards is in pursuant to DECS Order No. 7, s. 1982 (Policies and Standards for Graduate Education) which provides for the formulation of specific requirements for each discipline taking into account its unique and differential characteristics.
3. Each engineering graduate school shall align its programs to the goals and mission of the institution and the nation. The school shall make engineering graduate education responsive to the growing need for highly competent engineers capable of undertaking wider responsibilities for optimum development of resources and utilization of the forces of nature in the production of facilities for the benefit of mankind. To achieve the above objectives, the engineering graduate program should have:
  - a. the built in mechanism for a continuous self-assessment of its instructional, research and extension service capabilities and program thrusts; and

- b. the necessary flexibility and adaptability to improve its internal operation and curricular programs towards meeting the diverse needs of the student, the community and the nation.
4. Every engineering graduate school should give these policies and standards the widest publicity possible among the academic community and its clientele.
5. Compliance with these policies and standards by all concerned is requested.
6. This Order shall take effect immediately.

(SGD.) CLEODUALDO B. PEREZ  
Undersecretary  
Officer-in-Charge

Incl.

As stated

References:

MEC Order: (No. 7, s. 1982)  
MECS Order: (No. 42, s. 1985)

Allotment: 1-3-4---(M.O. 1-87)

To be indicated in the Perpetual Index under  
the following subjects:

Course of Study, COLLEGIATE  
CURRICULUM  
POLICY  
SCHOOLS

( Inclosure to DECS Order No. 110, s. 1987 )

## POLICIES AND STANDARDS FOR ENGINEERING GRADUATE PROGRAMS

Graduate education stands at the apex of the educational pyramid so from that vantage point it can develop effective leaders in education, government, business, industry and other fields, stimulate research geared towards development including the transmission and enrichment of the cultural heritage and manage community extension services.

These policies and standards governing the establishment and operation of graduate courses are borne out of the right of the state to supervise. For the maintenance of high standards, the same are hereby issued for the information and guidance of all concerned.

### A. AUTHORIZATION

1. Graduate programs shall be operated only with the proper authority granted by the Secretary of Education, Culture and Sports.
2. Only schools with undergraduate program in engineering and recognized for the past ten years are qualified to operate a graduate program in the same discipline except in those fields where there are no corresponding undergraduate program in engineering, i.e., Energy Engineering, Nuclear Engineering.
3. The following procedures shall be followed for the opening of new graduate schools or programs:
  - 3.1 A letter of request should be submitted to the DECS regional office concerned within a period of twelve (12) months preceding the schoolyear when such school/course will start to operate. The request should be accompanied with a notarized feasibility study comprehensively covering the following factors and supported with pertinent evidence;
    - 3.1.1 Rationale and mission statement of proposed school/course
    - 3.1.2 Goals purposes and objectives of proposed school/course
    - 3.1.3 Resources in relation to
      - (a) School site and buildings;
      - (b) Floor plans showing allocation of classrooms and other quarters for instructional purposes for existing and new programs;

- (c) Financial statement certified by a CPA showing annual and itemized expenditures for existing programs;
- (d) Financial statement certified by the school head showing itemized pre-operational and proposed annual operational expenditures for new school/course;
- (e) Facilities available, including program for acquisition of additional resources; and
- (f) Proposed faculty line-up and administrative and supervisory staff, together with their respective bio-data, transcripts of record and agreements to serve the school.

3.2 The above request, together with the supporting papers shall be submitted through the DECS Regional Director for action and/or decision.

- 4. No announcement or advertisement shall be made of any new graduate programs until their permit or authority to operate is given by the DECS.
- 5. When applying for a new major or field of concentration or when revising an approved program, the objectives, the proposed curriculum, list of faculty, together with their transcripts of record, bio-data, agreement to serve the school, and supportive library and other resources shall be sent to the Department of Education, Culture & Sports for approval, through the regional office concerned, prior to the start of operation of the new program.

#### B. PHILOSOPHY, AIMS AND OBJECTIVES

- 1. Every graduate school shall define its mission orientation, goals and objectives for the information and guidance of its clientele and the academic community.
- 2. All graduate school shall enjoy academic freedom as provided for in the Philippine Constitution.

#### C. ADMINISTRATION

- 1. Engineering graduate programs shall be administered/chaired by a qualified engineer who possesses a masters degree in the field of engineering, and has at least three years of administrative and teaching experience.

2. Every graduate school should encourage its faculty members to undertake research by providing financial assistance to them or seeking grants for the same purpose.
3. Each graduate school is encouraged to enter into consortium arrangements, share facilities and personnel with other graduate schools, and seek accreditation which may eventually lead to deregulated status.

#### D. FACULTY

1. There shall be at least three faculty members with masters degrees in the discipline or area of specialization offered.
2. Faculty members in the graduate school should teach largely in their respective majors or fields of specialization.
3. Every faculty member should undertake research and other related developmental activities for purpose of professional growth.
4. The faculty members of the graduate school should be given remuneration commensurate to their professional qualification and standing in order to maintain the dignity of their profession.

#### E. LIBRARY

1. The engineering graduate school should have access to the libraries within the campus.
2. The engineering school library collection shall contain at least one hundred (100) non-duplicate books at the graduate or professional level for each discipline within which it offers an engineering graduate degree.
3. The engineering school library shall contain at least ten (10) non-duplicate books per specialty within a discipline for which it offers a degree.
4. At least one-half of the books required above shall have copyrights less than ten years old, and all shall be less than twenty years old.
5. The engineering school library shall maintain a journal and periodical collection adequate to support graduate instruction and research.
6. The engineering school library shall maintain at least five journal subscriptions in each discipline in which it offers an engineering graduate degree.

7. Every graduate school library should have:
  - 7.1 a complete and adequate search system, such as updated catalogues, vertical file, reader's guide and other appurtenances;
  - 7.2 carrels for independent study and scientific research of students and faculty members; and
  - 7.3 a library development program which includes expansion proposals and feasibility studies for professional growth and research work.
8. The open-shelf system providing enough reading space commensurate with the population of each graduate school may be adopted.

#### F. RESEARCH

1. All institutions of higher learning with graduate school should have a research unit or office.
2. Each graduate school should provide a venue for the dissemination of results of studies and researches of its faculty, outstanding and scholarly papers or project in each discipline and abstract or summary of approved thesis of student.
3. Exchange of copies of research journals by and among graduate schools and with foreign schools is encouraged.
4. The school shall provide the required instructional, research and laboratory equipment necessary to support its graduate engineering program/s.
5. The school shall provide the faculty and graduate students, access to computer facilities on campus.

#### G. ADMISSION REQUIREMENTS

1. The administration of each graduate school, pursuant to its own institutional policies and rules shall determine the requirements in the admission of students to graduate work, subject to the following conditions:
  - 1.1 As a general rule, only those students who in the judgment of an admissions committee can profit from graduate work and who can successfully pursue prescribed requirements for graduation of the program, shall be admitted.

- 1.2 Specifically, the admissions committee shall:
- 1.2.1 Set up criteria and decide on admission to graduate work;
  - 1.2.2 Assess and/or decide on English proficiency of foreign students;
  - 1.2.3 Evaluate and/or decide on transcripts of records of foreign students; and
  - 1.2.4 Perform such other functions as the dean may deem necessary.
- 1.3 For admission into the master's program only those students who graduated in the baccalaureate degree program with at least an average rating of 85% or its equivalent in the entire course shall be considered eligible.
- However, by way of exception, students with a lower general average than the prescribed admission qualifications may initially be admitted on a probationary basis and after satisfactory performance may formally be admitted as a regular student in the degree program.
- 1.4 In certain specific fields of concentration, graduate students should have had the proper and corresponding undergraduate academic backgrounds or at least twelve (12) units of remedial or prerequisite courses in the same discipline before admission to the graduate program.

#### H. CURRICULUM

1. The minimum course requirement for the engineering master's degree program shall be as follows:

Course Work	Thesis Option	Thesis Equivalent (Non-Thesis) Option
Subject in the major field	15*units	21
Applied Mathematics	6 units	6
Electives	3 units	9
Thesis	6 units	0
<b>T o t a l</b>	<b>30 units</b>	<b>36</b>
Other Requirements:	Oral Defense of Thesis	Comprehensive Examination

\* Research methodology course may be included here.

The thesis equivalent option course work shall require each student to individually undertake a special research project (separate from a Research Methodology Course). This shall already be integrated in the twenty-one (21) minimum total number of units under the subject in the major field. The research project may be an application of what the graduate student learned and not necessarily a contribution or addition to knowledge like a thesis.

2. As a general rule, curricular subjects should be offered on three-unit courses equivalent to at least fifty hours.
3. The course description of each curricular subject shall be supported by an updated syllabus containing a detailed statement of its philosophy and objectives, the units covered, textbooks to be used, and references available in the library.

#### I. INSTRUCTIONS AND PROMOTIONS STANDARDS

1. The highest possible instructions and promotions standards shall be maintained by each graduate school.
2. Graduate schools are required to adopt a selective retention policy.
3. Advancement to candidacy towards earning the master's degree shall be determined by the admissions committee, or another committee organized for this purpose. The committee shall evaluate and certify the quality of performance of the student in the graduate work based on his performance in examinations, term papers, class discussions, seminars, and the use of written and spoken language.
4. No students shall be awarded a master's degree unless he obtains a general weighted average of at least 85% or its equivalent.

#### J. COMPREHENSIVE EXAMINATION

1. A written comprehensive examination shall be taken by non-thesis graduate students who have completed all course requirements.
  - 1.1 The scope of the comprehensive examinations should be the totality of the whole program of the student.
  - 1.2 The basic courses, field of concentration, and electives should be so integrated that all the courses taken and passed by the student should be comprehensively encompassed in one examination which may be administered in one day.



- 1.3 A committee should be constituted to supervise the development and administration of the comprehensive examinations.
- 1.4 A complete list of students who have been formally admitted to graduate status and passed the comprehensive examinations shall be maintained in the office of the dean.

#### K. THESIS

1. The thesis should contribute substantially and purposively to the existing fund of knowledge in the discipline, preferably in conformity with institutional goals, thrusts and objectives, and should manifest the student's competence in research.
2. There shall be a thesis committee for each student in the thesis option. It shall be responsible for approving the research design and maintaining the high quality of the thesis.
3. Each graduate school may adopt any acceptable format for thesis writing, provided that consistency with the objectives and design of the thesis is achieved and maintained.
4. Each graduate student writing a thesis should be assigned an adviser who shall be chosen on the basis of his expertise in his own discipline and a working knowledge of research methodology.
5. One bound copy of the thesis shall be sent to the DECS regional office concerned for the special order and/or record purposes, another copy to the National Library, and another copy to the Philippine Normal College, Manila.

#### L. ORAL EXAMINATIONS

1. The oral examinations for the defense of thesis shall be scheduled after the student shall have:
  - 1.1 completed all his academic courses
  - 1.2 been certified by the adviser as to his readiness for oral defense and recommended by the thesis committee.
2. The oral examinations for each candidate shall be conducted by a panel of at least three members who shall be holders of masters degree.
  - 2.1 The chairman and members of the panel should be chosen on the basis of their expertise and area of specialization, upon recommendation of the thesis committee and approval of the dean.

- 2.2 Graduate schools are encouraged to invite deans and faculty members of other graduate schools and/or qualified officials of the Department of Education, Culture and Sports to sit as members of the panel in the oral examinations.
- 2.3 The Secretary of Education, Culture and Sports reserves the right to send his representative to sit in subsequent oral examinations whenever there is evidence of non-compliance with established procedures in the conduct of oral examinations.
3. The final rating for the oral examination of each candidate shall be decided by a majority vote of the panel members.

#### M. RESIDENCE/UNIT REQUIREMENTS

1. The residence requirement for graduation from the master's degrees, excluding the units for thesis, shall be at least two consecutive semesters and at least twelve (12) units of course work.
2. Transfer from one graduate school to another is discouraged. However, in exceptional cases where a transfer is unavoidable, academic units earned by the student from the school last attended, excluding thesis, may be accepted by the school to which he seeks transfer subject to the following conditions:
  - 2.1 the subjects taken in the school last attended are substantially the same in content in the graduate curriculum of the school he is seeking transfer to;
  - 2.2 the residence requirement shall have been complied with; and
  - 2.3 approval by the designated authority of the school.
3. A student shall be given a maximum period of seven calendar years within which to complete all requirements for a degree.
  - 3.1 In highly meritorious cases, an extension beyond the seven (7) year period may be allowed provided, the student validates by examination all courses still required in the program that were taken more than seven (7) calendar years prior to the awarding of the degree.

#### N. MISCELLANEOUS

1. These policies and standards shall take effect immediately upon approval.
2. Non compliance with these policies and standards will be administratively dealt with.