CHED MEMORANDUM ORDER
No. 29
Series of 2005

SUBJECT: REVISED POLICIES, STANDARDS AND GUIDELINES FOR ENGINEERING EDUCATION

In accordance with the pertinent provisions of Republic Act (RA) No. 7722, otherwise known as the "Higher Education Act of 1994," upon the recommendation of the Technical Panel for Engineering, Technology and Architecture and by virtue of Resolution No. 2005-002 of the Commission on Higher Education, the following policies, standards and guidelines for engineering are hereby adopted and promulgated by the Commission, thus:

INTRODUCTION
This set of Policies, Standards and Guidelines shall apply to all HEIs, both government and private offering engineering programs.

ARTICLE I - AUTHORIZATION
Section 1. Authority to Operate. Any engineering program or course shall be operational only upon an express provision of law, or with the proper authority based pursuant to law by the Commission on Higher Education (CHED).

ARTICLE II - OBJECTIVES
Section 2. General Objectives. Every engineering program shall define its mission, goals and objectives along the following general objectives:
2.1 To produce graduates with the necessary theoretical knowledge of mathematics and natural sciences as well as the background knowledge needed by them to acquire the expertise and practical skills required of professional engineers.
2.2 To educate students for their career as engineers, to enable them to contribute to the developmental effort of the country as competent and competent professionals.
2.3 To release citizens imbued with good moral and ethical values and the sense of awareness of the conservation of the environment for sustainable development of the country.

DAP Rs. 29, San Miguel Avenue, Ortigas Center, Pasig City
2.4 To provide students instruction in both theoretical and practical aspects of engineering and expose to industrial work in the form of field experience.

Section 3. Assessment of Achievement. Each engineering program shall provide evidence that objectives in provided needs is being fulfilled.

ARTICLE III - MINIMUM CRITERIA

Section 4. Instructional Program Quality

4.1 Faculty

College administration should encourage the recruitment of the faculty to adopt their master's and doctoral degrees in relevant fields. An adequate number of full-time faculty will ensure the minimum requirements stated below for all engineering schools.

4.1.1 Full-Time and Part-Time Faculty Qualifications

1. Only faculty members meeting both professional and institutional standards or requirements shall be hired for any teaching position.

2. At least 60% of the faculty must be holding professional degrees or on full-time term.

3. At any given time, at least 20% of the faculty members teaching, practical courses in the knowledge area of engineering shall be holding of master's degree in the field of specialization as an engineering education, provided that half are full-time faculty. (An alternative, the faculty of the master's degree may be set at 70% provided that the other 10% of the faculty have had at least an (EE) 7000 experience in teaching professional engineering subjects or ten (10) years of five engineering experience.

Faculty members teaching professional courses shall be registered engineers with proficiency with field experience.

4. At any given time, at least 40% of the faculty members teaching Mathematics, Physical Sciences and Basic Engineering shall be holding of bachelor's degree and at least master's degree in either engineering, physics, chemistry, mathematics or computer science.

4.1.2 Adjuncts

The teaching assignment and responsibilities of each faculty member shall be limited only within the area of his specific training and/or field experience.
1. Full-time Faculty:
   a. The normal teaching load of a full-time faculty member shall be twenty-five (25) academic units per week. However, a faculty member with a满上述权力
      performance rating may be allowed an additional five (5) academic units beyond the allowed normal teaching load.
   b. A full-time faculty member shall devote time for community and other extension services.
   c. A full-time faculty member shall perform relevant research work.

2. Part-time Faculty:
   a. A part-time engineering faculty member shall have a maximum teaching load of twenty (20) academic units per week.
   b. Each part-time engineering faculty member shall have a schedule of student assistance responsibilities.

4.1.5 Aims:
   a. It shall be the expressed policy and practice of the school/study/college of engineering to assign to faculty members all
      a. follow current trends in the field;
      b. use library and related supporting resources in teaching;
      c. participate in outside and departmental meetings;
      d. encourage participation in professional engineering societies;
      e. evaluate effectiveness of instruction in engineering courses;
      f. follow the standard grading system, which should have been explained to the students at the beginning of each quarter;
      g. improve teaching efficiency using innovative methods and
      h. participate in service requiring programs for faculty members.
4.1.4 Localite Profile

4.1.4.1 Prepartion

The maximum number of academic preparation shall not be more than four (4) different courses.

4.1.5 Teaching Performance

The evaluation sheet should show that majority of the faculty have an overall good or excellent performance.

4.1.5.1 Evaluation system

1. The administration of each school/unit of engineering shall have a defined set of procedures for determining the classroom performance of each faculty member, which shall satisfy students and supervisors' evaluation.

2. The dean or vice-dean shall observe and evaluate the teaching capabilities of each faculty member at least once during every academic year.

The evaluation shall include at least the following aspects:

a. actual observation of the faculty member's performance in the classroom;

b. written summary of observations, a copy of which shall be provided the faculty member;

c. the set of evaluation criteria distributed to each faculty member at the start of the semester which shall include: subject-specific competence, availability of examinations, assignments, and levels of presentations; the ability to identify and assess student needs, personality and capacity of attention, and record keeping; faculty members' personality; monitoring; rapport with students and other faculty members; classroom and delivery of instructions, organization, and control; professionalism; participation; availability to students; influence; course outline, method/technique course enrollment; written evaluation reviewed by the faculty member with the opportunity to file a response, and the right to appeal by the faculty member.

4.1.6 Hiring Practice.

The schools/units of engineering shall have an established procedure for recruitment of new faculty members. The recruitment process shall involve the professor or his authorized representative, the dean and department heads.
4.1.1 Faculty Development Plan

A faculty development plan shall be developed and implemented by the institution. There shall be sufficient faculty effort to support the faculty members in pursuing graduate studies in professional fields or areas. An assessment mechanism shall be developed to evaluate the faculty development plan on a regular basis.

1. Faculty Development

a. Programs

(i) Each administrative and full-time engineering faculty member shall be encouraged to participate in a school- sponsored program of professional development.

(ii) Each full-time engineering faculty member shall be encouraged to attend professional meetings, workshops, and conferences.

(iii) Each full-time engineering faculty member is required to prepare a 3-5 year career development program.

b. Leave of Absence

There shall be a set of policy and procedures permitting every full-time engineering faculty member a form of leave for professional development with or without pay at the discretion of the administration, and provisions to ensure that the faculty member shall be allowed to return to his/her regular position at the end of the leave period. Such policy shall be published as defined in the school rules and regulations.

c. Financial Assistance

There shall be a program, at the school/campus level, of engineering which shall provide partial, partial, or full-time engineering faculty members to pursue advanced degrees in compatible graduate study and continuing education programs.

d. Contractual Terms

A full-time faculty member granted a paid or unpaid leave of absence or provided assistance by the school in pursuit of graduate study shall be governed by contract by and between the school and the faculty member concerned.
a. 

Each school of engineering shall be a system of providing suitable arrangements for faculty members who cannot attend their regular teaching assignments.

4.3 Laboratory

4.3.1 Room Layout

4.3.1.1 Specifications for Ventilation/Lighting Arrangements:

1. Capacity: The laboratory should provide an area of at least 250 square meters per student.

2. Air Flow: This should balance the necessary laboratory and operating systems in the space, allowing for proper ventilation, the maximum level being 80% of the air.

3. Ventilation: Laboratories shall have adequate ventilation.

4. Lighting: The lighting shall be adequate and should conform to the standard guide.

5. Other Requirements: Essential services, such as water and gas, should be provided as required. Students working in laboratories shall observe general rules and cleanliness from time to time.

4.3.1.2 Compliance with Minimum Standards:

The laboratory room shall comply with all government standards for laboratory space, with the following additions:

1. Equipment Requirements: There shall be sufficient functional arrangements, apparatus, supplies, tools, and other equipment inside the engineering laboratory, in order to achieve the following objectives:

a. To allow each student to perform one of the basic laboratory exercises called for in the laboratory course, as provided in the approved syllabus of the engineering course offered by the school.

b. To maintain a situation wherein no laboratory exercise will group shall exceed the (3) students working on the same laboratory experiment at any one time.

2. Mode of Operation: Each school of engineering shall be a system for the continuous supervision and monitoring of its laboratories, facilities, and equipment.
4.2.1.1 Personnel Requirements

1. Faculty Requirement
   a. Engineering laboratory subjects shall be taught preferably by a full-time faculty member.
   b. Students eligible to do individual laboratory writing shall not exceed 60.5 students. However, due to the compression of the work, all laboratory activities and assignments given to the laboratory in which such classes are in session and who are assigned excessive responsibilities from the projects may be counted as "Laboratory" for purposes of this section.

2. Technical Requirements

   There shall be one (1) full-time laboratory technician or assistant for measurement and duplication of engineering equipment per laboratory in chemistry, physics, mechanical power and hydraulics, chemical processes, surveying, and use measurement means, machine shop, electrical power and electronics.

   "Full-time" for laboratory technicians means at least six (6) hours of work per week in addition to any additional hours for any individual laboratory, plus such other additional forms, if any, during one annual laboratory semester.

3. Maintenance of Equipment
   a. Each school/college of engineering shall have a program for the regular effective maintenance, repair, and utilization of laboratory equipment.
   b. The said program shall have an adequate annual allocation of funds to be determined by the school/college.
   c. Each school/college of engineering shall maintain a systematic record of space used and equipment located.
   d. The school/college of engineering shall make available additional funds necessary for emergencies or costs of efficient laboratory equipment to ensure the continuing operation of the instructional program of the laboratories.
4. Calibration (Equipment)

a. Each school/college of engineering shall ensure that the equipment furnished is in operation on a regular basis. The data of last calibration of a measuring instrument shall be recorded on each instrument.

b. The laboratory reference standards, if supplied by the school/college shall be kept separately from other laboratory instruments and kept in a secure controlled environment.

c. The school/college of engineering shall ensure that all measuring instruments, especially reference testing machines and other testing equipment and apparatus, if used for the purpose of providing output, should be calibrated or tested regularly in accordance with specifications at least every three months.

d. In addition to other requirements, as well as commercial services which are provided against the instruments and testing equipment by the person or firm supplying the services, the one on which the instrument was last calibrated and the calibration data of any of the measuring instruments with it.

5. Inventory of Equipment

Each school/college of engineering shall maintain a record of equipment with which may be operated normally. The record shall contain the following information:

- name of the unit;
- quantity or kind;
- operational status (operational, not operational, needs repair, awaiting inspection);
- year of purchase; and
- original purchase price, if known.

6. Laboratory Safety

Each school/college of engineering shall have a program of safety measures which shall include the following components:

- An annual training program in laboratory safety shall be provided by both the school/college and staff using or working in the laboratories and facilities.
b. Sound, well-ventilated, separate storage for gas cylinders, radioactive materials, explosives and flammable shall be provided. All containers shall be in close-ventilation, sealed as hermetic and shall be properly labeled with warning here.

c. Washets shall be provided for the proper storage of chemicals and proper places (not adjacent to streams) for thermometers and other shall be provided.

d. Fire extinguishers with proper specifications required by fire code and are immediately inspected and checked shall be provided

e. Annual testing (operation on the predetermined condition) procedure includes measuring dirty for substances and staff shall be proceeded

f. Specific safety signs shall be posted in laboratories where chemical, electrical or radioactive experiment are performed or where activity with potential injury is made. Use, mark, or and operation here using the knowledge.

g. Adequate ventilation for the removal of dust and chemical fumes in all laboratories and shops shall be provided.

h. Laboratory ventilation shall be designed and vented by students where appropriate.

i. Eye protection shall be lubricated in every room and shall be worn when grinding, fusing, welding or boiling is taking place.

j. Safety rules, regulations and operation procedure shall be posted in conspicuous place.

k. Emergency ditches and eyewash shall be provided in laboratories where these is possible exposure to chemicals.

l. Disposal of hazardous waste shall be provided.

8. Storage

There shall be an adequate and appropriate ventilation storage room in the technology of engineering science and other all equipment, operation specifications and is one.

9. Laboratory References

Laboratory manuals, catalogues and other references shall be made available for students or, in purchase by all students of all engineering laboratory courses. The laboratory manuals shall
the instruction for each experiment in the syllabus. Appropriate safety warnings must be issued clearly at the start of the experimental procedures, which may be hazardous. The manual shall include procedures and equipment that match the actual equipment in the student's laboratory to which he/ she is assigned.

4.2.2 Computer Lab

4.2.2.1 Equipment/Software/Location

The school shall provide adequate computer hardware and software adequate to support the requirements of the subprogram specified in the curriculum and to encourage the utilization of the equipment.

4.2.2.2 Personnel

There shall be one (1) full-time technician assigned to the computer laboratory.

4.2.2.3 Computer/Student Ratio

The computer/student ratio in a computer laboratory class shall be 1:1.

4.2.2.4 Connectivity and Networking

The computer laboratory shall be at least suitable as a networked environment. Internet access shall be made available to all students and faculty and is such other places like the library.

4.3 Library

A separate engineering library should be provided with a shelf for the students and staff, a central desk for checking in materials, an office for all processed materials, a display space for exhibitions, a storage for all processed materials, a library space for exhibitions, a space for library seating, an appropriate library budget, at least one large English encyclopedia dictionary and atlas, at least one foreign language encyclopedia dictionary and atlas, and at least one magazine if available in the library.

Note: In a rural-school setting, the engineering library may be set up and maintained as part of the school or library and not as another section within the school's library. However, like the
engineering library shall be located within 200 ft (60.5 m) from each of the following:
1. the engineering laboratories;
2. the majority of the engineering classrooms; and,
3. the engineering faculty members.

Capacity
The engineering library shall provide adequate space with built-in seats and desks or other seating surfaces, which can seat 7% of the maximum enrolled population of the engineering student at any one time, with at least 0.36 ft² (0.04 m²) of floor space per seat.

Design
The dimensions and facilities of the engineering library shall be arranged to prevent cross-irradiation and flow of traffic, and all materials shall be arranged for quick and easy access by students.

There shall be a well-groomed area of no less than 0.60 m (14 in.) having a maximum width of 0.60 m (14 in.) along the engineering library.

4.3.1 Book Collection, Usage, and Use

4.3.1.1 Basic Collection, Access, and Use
The engineering library shall be open exclusively for the purpose indicated herein. However, if the library is the school repository, no additional storage shall be allowed for the library storage purposes.

The engineering library shall:
1. have at least one (1) technical one-deck shelf with a capacity of four (4) linear feet per shelf for subject storage;
2. have at least one (1) professional engineering non-deckable books with a capacity of eight (8) linear feet per subject for each course of study in which a degree is offered;
3. have at least 5% of the technical engineering books and materials (5% or the other technical non-deckable books shall not be more than 5 years old).
4. have engineering and other technical books and:

5. have a program of non-curricular and curricular technical study at a rate of at least 0.1 hours per faculty equivalent engineering student per year.

4.3.1 Periodical Collection

The library of each school of engineering shall have a program for the acquisition and maintenance of at least two (2) periodicals subscribed to representing current engineering journals and one (1) general interest technical periodical subscription for each undergraduate in engineering for which a degree is offered.

4.3.2 Accessibility

1. Control Access to all printed books and other library materials shall be exercised and maintained by the library staff. This control system, however, shall not interfere with any library user's access to the library resources.

2. Card Catalogue: A card catalogue of engineering library resources shall be maintained with both author, title, and subject cards. Each issue heading shall be printed exactly, along with both author and subject, and accession records.

3. Periodicals: Current periodical subscriptions, along with an index of periodical availability, shall be on display and readily available to students for borrowing.

4. Physical: The library control system shall include the following provisions:

a. No more than 20% of the engineering library book collection shall be in reserve at any one time.

b. No more than 80% of an engineering library book collection shall be cataloged, or ordered include short or shelf,昆quency or otherwise inaccessible to students for borrowing.

c. At least 60% of the engineering library book collection shall be either accessible to students for borrowing, and are reasonably available on call.

d. To allocate shelfspace from the library, the books in question has the student assign to them to serve the library should be racklisted.
4.1.2.2 Loan System
Books not on reserve shall be allowed to be checked out by the students from the engineering library for at least one (1) class day with the opportunity for renewal following the said period.

4.1.2.3 Inter-Library Cooperation
Cooperative relations, including inter-library loan services and inter-library accessibility of resources with other libraries, shall be established and maintained to augment and enhance the engineering library services.

The cooperative relations, with respect to subscriptions to special one or specialized technical journals, shall include jointly planned priorities and the sharing of periodical resources among engineering libraries within a given locality, if feasible.

4.1.2.4 Library Hours
The engineering library shall be open during the regular school days. In no case shall it be less than 12 hours per regular school days.

4.1.2.5 Orientation of Students
There shall be a functional library orientation program for all new students at the start of each semester.

4.1.2.6 Memoranda
The library shall have a system of announcing all new acquisitions at least once every two months to all engineering faculty and students.

4.1.2.7 Preservation of Resources
The library shall take measures for the preservation of periodicals and the rebinding of books including moisture control, binding of periodicals, rebacking of worn books, pest control, proper shelving, and storage, anti-theft, protection, and availability of photocopy services to reduce damage resulting from lost or torn pages.

4.1.2.8 Storage
A readily accessible dead book storage, not taking up study space, shall be provided for seldom used books.

At least five (5) cubic feet (176 cubic ft.) per 1000 books shall be provided for storage space in the library.
4.3.2.9 Safety

There shall be one (1) fire extinguisher per 200 square feet (215 sq ft) of library and space in library areas.

4.3.3 Record of Use of Libraries

Office Services/Extramural Environment

There shall be a system for the use of library resources, materials, and reference services.

4.3.4 Personnel

The engineering library, if physically separate from the main library and has a seating capacity of more than fifty (50) shall have one (1) engineering area librarian with a degree in library science and adequate knowledge of special librarianship with have had training in library work.

The librarian shall participate in engineering faculty meetings and shall serve on engineering faculty planning committees dealing with educational programs.

The librarian shall be encouraged to join professional societies of librarians.

The work shall be a registered librarian.

4.4 Institutional Facilities

4.4.1 Classrooms

4.4.1.1 Capacity

The classroom faculty of the school/district shall have a capacity of one (1) sq. ft. of floor space per student. The classroom standard shall apply to instructional settings of laboratories and the laboratory standard shall apply to experimental areas only. The total of space occupied by equipment, laboratory benches, and classroom space in the instructional program shall be at least 75 square feet. The area in conformity with the National Building Code.

4.4.1.2 Non-Laboratory Instructional Space

1. The classroom of the engineering school shall provide a variety of spaces, in addition to instructional spaces which are committed to instructional sessions.

2. A quiet and comfortable space for individualized instruction and counseling of students shall be provided.
3. The instructional spaces must be varied for specific purposes.

4.4.1.1 Design

All instructional spaces for lecture, recitation, demonstration or informal purposes shall be provided with at least one fixed lecture board, one finishing dual electric outlet, comfortable seat for the instructor and a lectern board for posting of bulletin and re-presentations.

4.4.2 furnishings

4.4.2.1 Acoustical

The acoustic levels inside the school facility should generally conform to standard building practices, as follows:

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<th>Use</th>
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<td>55</td>
<td>Laboratory</td>
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<td>45</td>
<td>Offices</td>
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<td>Library</td>
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4.4.2.2 Ventilation

The classrooms, libraries, laboratories, and offices must have adequate ventilation.

4.4.3.3 Lighting

Luminaires located inside the school must be program and should conform to the existing code.

4.4.3 Doors

There shall be two (2) doors opening out per room.

4.4.4 Audio-Visual Facilities

4.4.4.1 Personnel

1. There shall be one (1) full-time audio-visual technician or assistant for maintaining and operation of audio-visual equipment.

2. There shall be one (1) full-time audio-visual technician or assistant for audio-visual production and lecture assistance at least (2) full-time lecture assistant or lecture fellow.
3. "Full-time" for audiovisual means that the required number of audiovisual technicians or assistants are present at all times when classes are being conducted or exams are to be given.

4.4.1.2 Equipment

The school administration shall have at least one (1) of each type of the following audiovisual equipment:

1. Overhead Projector
2. Audio-Video Player
3. Sound System
4. Television
5. LCD Flat-Screen Projector
6. Delegating Machine
7. Supplies

The school administration shall provide sufficient video equipment and materials for the production of visual aids. The school administration should be prepared to purchase or replace audiovisual equipment and to train staff in its use.

9. Maintenance

All audiovisual equipment shall be maintained in good working order or shall be replaced if beyond repair.

10. Staff Training

The school administration shall provide for each audiovisual facility member a minimum of four hours per year in the use of audiovisual equipment and in the production of audiovisual materials.

10. Storage and Cataloging

All audiovisual materials shall be stored, cataloged, and classified.

4.6 Instructional Materials, Methods, and Sequences

4.6.1 Instructional Materials

4.6.1.1 Materials

The school shall provide an adequate number of materials, which are to be used in underclass innovative teaching. The materials can be in the form of books, CDs-ROMs, or present in computer systems.
4.3.1.2 Curriculum Overview

1. The curriculum of each engineering college that wishes to offer a bachelor of engineering degree shall meet the minimum requirements as set by the Commission on Higher Education. Any deviation from the prescribed requirements shall have the prior clearance or approval by the Commission.

2. The curriculum shall cover the different fields of engineering as provided by the Commission on Higher Education. It shall be observed that the facility rendered in the corresponding courses as well as of such other courses as may be included.

3. Each school/collage of engineering shall have a continuing curriculum development and revision program in each engineering field offered, which shall be inclusive in scope and coordinated with the various laboratory facilities and equipment, taking into account local needs.

4.3.1.3 Basic Skills

If the enrollment of students and the faculty resources so warrant, the following remedial courses may be offered to improve basic skills:

1. The school may offer remedial courses in basic mathematics and English language skills.

2. Within each course schedule there shall be some extra component directed towards improving student proficiency in the skills of reading, writing, and speaking technical English.

3. The remedial program alone shall be applicable to every course in the engineering curriculum.

4.3.1.4 Laboratory and Field Experience

The school/collage of engineering shall ensure that:

1. Each curriculum may include at least one (1) semester or engineering laboratory experience in school, or one (1) field visit to industry, or one (1) cooperative on-the-job training program experience, for all engineering students.

2. All laboratory courses offered will involve the following:

a. hands-on manipulation of apparatus and equipment by each and every student;

h. experimental procedures carried out by students which require the collection, collection and analysis of data;

c. testing of individual impact with emphasis on the development of plans for technical experimentation in the field of chemical and physical processes to improve student productivity in oral research in English;

d. encouragement in the use of competitive journals.

4.5.1.5 Continuing Professional Development

The engineering college shall make available its facilities for embarking on continuous development programs for practicing engineers in current engineering technologies in each field of engineering for which it is deemed to operate.

4.5.3 Methods

Teaching innovations in improving the methods of teaching and learning shall be developed by the academic administration and shall be evaluated by the faculty for its effectiveness.

4.5.3 Impediment for Improving Teaching and Learning Methods

The administrative and academic staff of the engineering school shall encourage faculty to participate in the development of teaching and learning methods to improve their teaching efficiency by using more innovative teaching methodologies.

Section 9. Research

Faculty Activities:

Faculty members actively engaged in research and significant research work in engineering shall be offered special privileges and benefits such as reduced teaching load and or in the equivalent without diminution of pay or additional compensation as stipulated on the agenda.

5.1 Support

For the development of research, the institution shall designate a competent research director, research assistants, and other personnel for the research office.

5.2 Organization/Structure:

There shall be an organization for the research function to be carried out effectively. Research funds shall be allocated.
5.3 Facilities

There shall be adequate facilities to accommodate the research needs of students and faculty members.

5.4 Outputs

5.4.1 Documentation

There shall be a documented research output.

5.4.2 Publication

Research papers shall be published in refereed journals.

5.5 Legality

As much as possible, there shall be no external agency support for research.

Section 6: Community Development

6.1 Personnel

There shall be an approved procedure to coordinate community extension projects.

6.2 Organization/Budget

There shall be an organization for the effective implementation of community extension projects. Funds for community extension projects shall be provided.

6.3 Execution

There shall be adequate facilities for community extension projects.

6.4 Outputs

6.4.1 Community Extension Services

The administration of each school/pooling of engineering shall maintain close relations with local industries, professional societies, and the general public for the training and placement of graduates as well as providing seminars/invitations to these groups.

6.4.2 Outputs

The administration of each school/pooling of engineering may allow their faculty to engage in community services as long as these services do not adversely affect the faculty member’s performance.
3.4.3 Industry-System Linkage

The college shall establish and maintain a close and continuous linkage with the industry for the on-the-job training of their students. The institution shall ensure financial assistance to the project.

3.4.4 Social Linkages

The institution is encouraged to maintain linkages with other schools.

3.5 Faculty Endowment

The faculty/student ratio may be 1:5. Faculty should be encouraged to engage in research activities.

Section 7. Administration and Support

7.1 Teaching Qualifications and Performance

7.1.1 College Administration

The college/department of engineering shall have (1) a full-time dean, (2) a full-time department head in each faculty department, and (3) an eligible faculty member as the head of the department, to adequately support the administrative functions of the college.

7.1.2 Qualifications

1. The Dean of the college/department of engineering shall be:

   a. holder of a bachelor’s and master’s degree in engineering, preferably in the faculty program base offered by the college;
   b. preferably holder of a doctorate degree in engineering or related fields;
   c. at least a 15-year teaching experience of at least five (5) years, at least five (5) years supervisory experience and at least five (5) years field experience; and
   d. registered engineer.

2. The department head of each program shall be:

   a. holder of a bachelor’s degree and master’s degree in engineering in their field of specialization;
   b. registered engineer.

CONFIDENTIAL ASIA-PACIFIC AVIATION BOARD AND COMMITTEE 3097, THE CONFERENCE BOARD
7.1.2 Duties

All administrators shall provide leadership in the following:

1. monitoring development and coordination of computer software, hardware, education, evaluation procedures, methodologies of instruction, departmental curricula and professional development for faculty personnel;

2. development, planning and promotion of faculty development and other administrative staff in the schools/college of engineering;

3. budgeting, allocation and regulations;

7.1.3 Teaching Load

The assignment of the teaching and research load of the dean and associate dean shall be in the interest policy of the school.

7.1.4 Support Staff

Support staff shall be provided for both the office of the dean and the office of the faculty members of engineering.

5.2 Organization

There shall be a governing body responsible for the formulation of general policies of the institution. A published organizational structure, which specifies the lines of authority and responsibilities among administrative personnel, must be available.

7.3 Glossary

7.3.1 Administrative Decisions

1. The dean shall be involved in the formulation and implementation of a Long-Range and Institutional Development Plan for the College, to ensure that the plan be re-evaluated on an annual period review and update.

2. The faculty members shall be continually involved in the development and revision of the curriculum.

7.3.2 Curricular and Degree Programs

Each school/college of engineering shall provide and maintain the following curricular service programs:

7.3.2.1 General and Service Core (Diagnostic, English, and proctoring) Programs
7.3.2.2 Support for Career Guidance and Job Placement

The mix of programs of engineering shall provide and maintain the following services:

1. Conducting student recruitment and employee relations interviews;
2. Maintenance of a database of potential employers and an index of potential local employers;
3. Scheduling of career and professional development counseling;
4. Encouraging students to network with professionals.

The graduate program shall involve both initial and continuing evaluation of students' progress in the engineering discipline, which may be conducted with the institution's overall program.

This includes the following:

1. Students' orientation program;
2. Professional networking;
3. Psychological counseling.

7.3.2.3 Support for Co-curricular Activities

The mix of programs of engineering shall have adequate co-curricular engineering clubs or other formal networks dedicated to engineering and related activities (e.g., student organizations).

7.3.3 Policies for Admission and Retention

Each institution shall have a clear selection and retention policy.

7.3.3.1. Admission Requirements

1. Admission

The administration of the school/college of engineering shall require all students to meet the following minimum standards:

a. All students shall pass an entering student examination administered by the school/college of engineering before being enrolled in an engineering program.

b. The school shall have established minimum standards for students who are enrolled in any engineering program.
2. Graduation

Each student shall satisfy all requirements for graduation as provided by the rules and the academic policies of the school for the student’s major field of study. No student shall be awarded a degree in a specific field of engineering education program.

7.3.4.2 Academic Policies

Programs shall be a well-defined set of academic policies adhered to by the student for both the student and the school to establish academic standards.

7.3.4.3 Students

Students who enter in the college shall have their records evaluated so that subjects taken by the student in other institutions will be considered.

7.4.4.1 Course Catalogues

The administration of each school(s) of engineering shall publish a college course catalogue, which shall contain information and shall define the standards of the major, programs, and procedures. Such a catalogue shall be updated at least once every five (5) years.

7.4.4.2 Class Schedules

The administration of each school(s) of engineering shall provide a schedule of courses for study that identifies the use prior to the current period of study.

7.4.4.3 Staff Manual

The administrative shall provide all professional staff members with a staff handbook updated at least once every five (5) years containing the following:

1. Employment requirements;
2. Employment benefits (such as salary, work, fringe benefits, etc.);
3. Classroom and laboratory teaching procedures and practices;
4. Available teaching resources;
5. Technical assistance procedures;
6. Personnel policies and procedures;
7. promotion policies and procedures
8. evaluation policies and procedures

7. Student Handbook

The administration of each school/college of engineering shall provide a handbook with a student handbook updated at least once every five (5) years containing the school's policies and regulations pertaining to all students enrolled in engineering courses, the institution's mission statement, its basic academic and disciplinary policies, rules and regulations and the activities and services at the institution.

7. Orientation Manual and Roster

The administration of each school/college of engineering shall publish a current faculty directory as faculty may change or maintain the institution's mission statement, objectives, its basic academic and disciplinary policies, rules and regulations, faculty status, appointments and advancement in rank, duties and responsibilities of faculty members, facilities and services for faculty members.

7.5.6 Administrative Manual

The administration shall publish a manual, which contains information regarding the school's organizational and governance Board of Trustees and the roles and responsibilities of the offices of the institution.

7.5.7 Budget

The intent of engineering shall be informed about the amount of funds available for acquisition, maintenance, repair, and supplies allocated to the college.

7.5.8 Procurement

Established procedures for procuring new laboratory equipment.

7.5.9 Policies and Regulations

Such engineering faculty number shall be provided with school policies and regulations updated at least once every five (5) years.

7.5.10 Records

7.5.11 Enrollments

A record system of student enrollment by engineering field of study and enrollment for all classes and enrollment number shall be maintained by the institution's administrative office.
7.3.2 Achievements
A permanent record system of student grades shall be maintained.

7.3.6 Sustainability
The administration should allow the school/college of engineering to undertake additional improvements of its buildings and material resources without relying on active fees alone. The methods that can be used for undertaking a sustainability program may be any of the following:
1. establishment of endowment funds;
2. scholarship donation for students or faculty to enroll;
3. outright gifts and grants given by alumni and friends;
4. regular donation from external funding institutions and governments;
5. donations in kind (books, journals, equipment & etc.);
6. matching grants;
7. sharing of expertise in the form of undertaking research, conferences and lectures;
8. academic duality programs which will help the school;
9. assistance of alumni and friends in selecting and from external sources; and
10. any other form of assistance to help the school upgrade itself.

7.4 Site and Buildings
7.4.1 Land and Buildings
The school may own its buildings and land, but in any case a long-term lease of at least fifteen (15) years may be acceptable.

7.4.2 College Site and Buildings
7.4.2.1 Site
The site and size of the school/college of engineering should be adequate to meet the needs of its present population and future expansion.

31/27
7.4.3.2 Influence to the Costs
School buildings shall be designed and constructed in conformity with the provisions of the current National Building Code and the National Fire Code.

7.4.3.3 Office Space
1. The school college of engineering shall provide adequate office space for the administration of the engineering program.
2. The school college of engineering shall provide and maintain faculty rooms and conference spaces.

7.4.3 Health and Safety
All classrooms and laboratories in the school college of engineering shall be clean and properly maintained to meet public health and safety regulations.

1. Toilets shall be kept clean and properly maintained to meet public health and safety regulations, and shall be free of obstructions other than toilet paper.
2. Physical education and recreational areas shall conform with all state and regulations pertaining to safety and utility.
3. Actual occupancy load of instructional rooms shall be properly observed and maintained.
4. The capacity load of instructional rooms with an occupancy capacity of more than fifty (50) students, where these rooms are not accessible, shall be posted in a conspicuous place, preferably near the main exit of the structure.
5. All conveyances and/or free of obstructions. Stairs under stairs shall not be used for storage of combustibles. All stairs and shall have handrails and non-slip surfaces.
6. There shall be a working fire alarm and fire fighting system.
7. Each instructional space shall be safely equipped by all of its occupants within ten (10) minutes. All central and laboratory doors, except in corridors, shall be open outward.
8. Appropriate essential support services shall be provided.
ARTICLE IV – NON-COMPLIANCE OF STANDARDS

Section 8. (Issuance of General Permit). Upon denial of applications for recognition or for additional year level(s) due to non-compliance with the requirements, renewal permit may be issued for one (1) academic year only.

Section 9. (Recognized/Unrecognized Engineering Program). The curricular guidelines for Engineering Education shall be observed in the implementation of the requirements for recognized and unrecognized engineering programs.

Section 10. (Offering of Program). An engineering program shall be offered under the college engineering.

Section 11. (Advertisement). No announcement or advertisement shall be made of any engineering program or course until its authority to operate has been given by the CHED.

ARTICLE V - REPEALING CLAUSE

Section 12. All laws, including but not limited to the CMO 34, as-enacted of 2001 and/or any part thereof inconsistent herewith, are hereby repealed or modified accordingly.

ARTICLE VI - EFFECTIVITY CLAUSE

Section 13. This CMO shall take effect starting SY 2006-2007.

Puig City, Philippines

July 23, 2005

For the Chairman

[Signature]

CARGITO S. POMO, DPA
Acting Chairman