Engineering Accreditation in the Philippines

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Presentation Outline

Introduction

Educational System in the Philippines

Objectives of Accreditation

Different Accrediting Bodies and Roles

Engineering Accreditation System based on "Outcomes Based Education (OBE)"

Capacity Building

Conclusion & Challenges
BRIEF HISTORY

Formal Education was started by the Spanish Government in the Philippines in 1611

The Philippines’ oldest University, the University of Santo Tomas (UST) was founded in 1613 and is older than Harvard University of the USA

The Americans introduced the first Licentiate Degree in Engineering in 1907 at the UST which produced the first graduates in 1912

The University of the Philippines (UP), the premier university in the country granted its first engineering degree in 1915
# EARLIER DECADES OF DEVELOPMENTS

| 1950s-1960s | • First local accreditation body and first accreditation visit (1957)  
• Second accreditation body formed |
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<td>1970s</td>
<td>• Technical Committees for Engineering Education formed with representation from industry and the academe</td>
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<td>1980s</td>
<td>• DECs Order No. 102, s. 1989 - Policies and Standards for Engineering Education Issued</td>
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| 1990s       | • Creation of the Commission on Higher Education (CHED) institutionalizing the **Tri-focalization of educational system** into Basic, Tech-Voc and Higher Education.  More focus on Higher Education  
• Accreditation institutionalized in aid of Quality and Excellence in Higher Education |
# 2000 ONWARDS - DEVELOPMENTS

| 2000s          | - Centers of Excellence and Centers of Development Institutionalized  
|                | - Program Outcomes (ABET-referenced) incorporated in engineering programs  
|                | - Engineering Programs accredited by ABET (3 programs)  
| 2010s          | - K to 12, 4-year Engineering Programs implemented  
|                | - Outcomes-based Education Mandated for all Engineering Programs  
|                | - Outcomes-based Accreditation implemented by PTC-ACBET for Engineering  
|                | - PTC-ACBET admitted Provisional Member of Washington Accord & FEIAP Guidelines  
|                | - 75 Engineering Programs accredited by PTC-ACBET & 24 programs by ABET  
|                | - Local Accreditation Bodies now Retrofitting towards Outcomes-based Accreditation  
| 2020s          | - Way forward  

The Philippine Education System

**Elementary**
- Six (6) Years
- One (1) Year
- Four (4) Years Junior HS + Two (2) Years Senior HS + TESD Specialization (NC I and NC II) + Arts & Sports

**Secondary**
- Technical Education and Skills Development

**Tertiary**
- Baccalaureate, Post- Baccalaureate, Post-Doctoral/ Specialization
K - 12 PROGRAM

GRADE 12 (17 YEARS OLD)  NEW HS YEAR 6  2 YEARS OF SENIOR HIGH SCHOOL
GRADE 11 (16 YEARS OLD)  NEW HS YEAR 5
GRADE 10 (15 YEARS OLD)  NEW HS YEAR 4
GRADE 9 (14 YEARS OLD)   NEW HS YEAR 3
GRADE 8 (13 YEARS OLD)   NEW HS YEAR 2
GRADE 7 (12 YEARS OLD)   NEW HS YEAR 1
GRADE 6 (11 YEARS OLD)
GRADE 5 (10 YEARS OLD)
GRADE 4 (9 YEARS OLD)
GRADE 3 (8 YEARS OLD)
GRADE 2 (7 YEARS OLD)
GRADE 1 (6 YEARS OLD)
KINDERGARTEN (5 YEARS OLD)  KINDERGARTEN  6 YEARS OF ELEMENTARY

4 YEARS OF JUNIOR HIGH SCHOOL

ALL SCHOOLS MUST ADHERE TO THE FOLLOWING STANDARDS:
1. AGE REQUIREMENT
2. DURATION
3. CURRICULUM

SOURCE: DepEd
The PHL Qualifications Framework

LEVEL | BASIC EDUCATION | TECHNICAL EDUCATION AND SKILLS DEVELOPMENT | HIGHER EDUCATION

L8 |  |  | DOCTORAL AND POST DOCTORAL
L7 |  |  | POST BACCALAUREATE
L6 |  |  | BACCALAUREATE
L5 |  |  |  |
L4 |  |  |  |
L3 |  |  |  |
L2 |  |  |  |
L1 |  |  |  |

DIPLOMA
NC IV
NC III
NC II
NC I

GRADE 12
In the K to 12 implementation, after Grade 12, a graduate can have the following OPTIONS:

1) Can apply for work
2) Study higher level of techvoc short courses thru Tesda
3) Continue to College

CHED
4 year course
Masteral
Doctorate

Tesda (for higher level Techvoc programs NCIII - NCIV)

DepEd/Tesda

DepEd
Number of Higher Education Institutions
As of 8 June 2017

Public HEIs

233

Private HEIs

1,710

ACADEMIC YEAR 2016-2017

OTHERS
OGS, CSI, Special HEI

SUCs
112 (16%)

LUCs
107 (16%)

SUCs SATELLITE CAMPUSES
453 (2%)

SECTARIAN
351 (21%)

NON-SECTARIAN
1,359 (79%)

www.ched.gov.ph

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REGIONAL DISTRIBUTION OF HIGHER EDUCATION INSTITUTIONS
BASED ON SECTOR, AY 2016-2017

PRIVATE

PUBLIC

I 82
II 48
III 174
IV-A 262
IV-B 41
V 113
VI 48
VII 103
VIII 52
IX 54
X 64
XI 77
XII 96
XIII 38
ARMM 54
CAR 36
NCR 317
NIR 51
TOTAL 1,710

■ PRIVATE
■ PUBLIC

*as of 8 June 2017
SUCs ENROLMENT BY DISCIPLINE GROUP
ACADEMIC YEAR 2016 - 2017
as of 10 April 2017

TOP 5 DISCIPLINE GROUP

- Trade, Crafts & Industrial: 441
- General: 2,157
- Law & Jurisprudence: 4,938
- Home Economics: 4,965
- Fine & Applied Arts: 6,114

BOTTOM 5 DISCIPLINE GROUP

- Education: 343,656
- Business: 287,255
- Engineering: 263,630
- IT Related: 147,808
- Agri-forestry: 111,859
According to discipline group, sector and gender as of 8 June 2017

DISTRIBUTION OF GRADUATES AY 2015-2016 (OVER-ALL PUBLIC AND PRIVATE)
- 267,376 (41.4%)
- 378,597 (58.6%)

DISTRIBUTION OF ENROLMENT AY 2016-2017 (OVER-ALL PUBLIC AND PRIVATE)
- 1,992,855 (55.5%)
- 1,596,629 (44.5%)

(OVER-ALL BASE ON SECTOR)
- PUBLIC (49.1%)
- PRIVATE (50.9%)

(OVER-ALL BASE ON SECTOR)
- PUBLIC (46.0%)
- PRIVATE (54.0%)
Total Number of Higher Education Institutions

<table>
<thead>
<tr>
<th>Engineering</th>
<th>555</th>
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<tbody>
<tr>
<td>Non Engineering</td>
<td>1155</td>
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EHEI  OHEI

32% 68%
Accreditation

Self-Regulation

Self Evaluation

Judgement of peers

Continuous process

Accepted standards of quality
Basic characteristics of Accreditation

Its prevailing sense of volunteerism;
Its strong tradition of self-regulation;
Its reliance on evaluation techniques;
Its primary concern with quality.
QUALITY
Philippine Context of Accreditation

Federation of Accrediting Agencies of the Philippines (FAAP), was established in 1977 and is authorized by the Commission on Higher Education to certify the quality levels of accredited programs at the tertiary level, for the purpose of granting progressive deregulation and other benefits.
FAAP – Federation of Accrediting Agencies of the Philippines
AACUP – Accrediting Agency of Chartered Colleges and Universities in the Philippines
ACSCU-AAI – Association of Christian Schools, Colleges and Universities – Accrediting Agency Inc.
PAASCU – Philippine Accrediting Association of Colleges and Universities
PACUCOA – Philippine Association of Colleges and Universities Commission on Accreditation
Vertical Typology

Regulated

Deregulated

Autonomous
Horizontal Typology

College  Professional Institution  University
Criteria

Commitment to Excellence
◦ Program Excellence (COEs & CODs, International and Local Accreditation)

Institutional Sustainability and Enhancement
◦ Institutional Accreditation (e.g. IQUaME, ISA)
◦ Institutional Certifications (e.g. ISO)
◦ Additional Evidences that support the criteria (e.g. governance and management, etc.)
Vertical Typology

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<tr>
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<th>No. of Engineering HEIs</th>
<th>%</th>
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<tbody>
<tr>
<td>Autonomous</td>
<td>43</td>
<td>7.6%</td>
</tr>
<tr>
<td>Deregulated</td>
<td>9</td>
<td>1.6%</td>
</tr>
<tr>
<td>Total</td>
<td>52</td>
<td>9.2%</td>
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COE & COD

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<thead>
<tr>
<th></th>
<th>No. of Engineering Programs</th>
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<tr>
<td>Center of Excellence</td>
<td>30</td>
</tr>
<tr>
<td>Center of Development</td>
<td>54</td>
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AREAS OF SURVEY*

1. Mission, goals and objectives
2. Faculty
3. Curriculum and Instruction
4. Students
5. Research
6. Extension and Community Involvement
7. Library
8. Physical Facilities
9. Laboratories
10. Administration
   ◦ *Common to all Accrediting Agencies
Levels of Accreditations

Candidate Status – Agency certifies its capability to be accredited within 2 years

Level 1 – granted formal accreditation for a period of 3 years

Level 2 – granted re-accreditation for a period of 3-5 years

Level 3 – granted re-accreditation for a period of 5 years

Level 4 – granted re-accreditation for a period of 5 years

DE- REGULATED

AUTONOMOUS
Engineering HEIs with Accreditation

- 343, 62%
- 212, 38%
Number of Accredited Engineering Programs and their Levels

- Level 1: 114
- Level 2: 178
- Level 3: 78
- Level 4: 10
- Candidate: 51
Number of Accredited per Engineering Program
Commission on Higher Education (CHED)

CMO 25, S.2005 – CHED Memo Order provides the Minimum Standards of Engineering Education which includes:

- Instructional Program Quality:
  - Faculty
  - Laboratories
  - Library
  - Instructional Facilities
  - Instructional Materials, Methods & Support

- Research
- Community Involvement
- Administration and Support
Commission on Higher Education (CHED)


CMOs for various Engineering Programs (S. 2008) – focused on competency-based curriculum
Commission on Higher Education (CHED)

CMO 37, S.2012

“Policies, Standards and Guidelines in the Establishment of Outcomes-Based Education System in Higher Education Institutions Offering Engineering Programs”

CMO 46, S.2012

“Policy-Standard to Enhance Quality Assurance (QA) in Philippine Higher Education through an Outcomes- Based and Typology-Based QA”
Commission on Higher Education (CHED)

CMO 86, S. 2017 – Policies, Standards and Guidelines Common to All Engineering Programs

CMOs for various Engineering Programs (S. 2017)
• Accreditation
  • CMO 25, S. 2005

• Outcomes-Based
  • CMO 37, S.2012
  • CMO 46, S. 20012

Input Based Systems
TYPOLOGY AND OUTCOMES-BASED QUALITY ASSURANCE

* academic excellence can only be achieved when HEIs are “deserving” of university status resulting in education inflation
* Applies university standards to all HEIs
* Assumes universities are at the apex of the education system
To date, there are only **23 (4%)** Engineering HEIs with Centers of Excellence (COE) and Centers of Development (COD)
PTC CASEE

Philippine Technological Council – Certification and Accreditation System for Engineering Education (2011)

Recognized by Commission on Higher Education as the sole accrediting agency for the recognition of the engineering programs (2012)
OVERALL FRAMEWORK

INPUTS

TEACHING & LEARNING FACILITATION, ASSESSMENT & EVALUATION METHODS, CURRICULUM DESIGN, ETC

ENGINEERING EDUCATION DELIVERY SYSTEM (OBE)

OUTPUTS

GRADUATE ATTRIBUTES, PROGRAM OBJECTIVES, STUDENT OUTCOMES

SOCIETAL NEEDS, ADVANCING TECHNOLOGIES, STUDENT’S ENROLMENT HUMAN AND MATERIAL RESOURCES, ETC

ACCREDITATION SYSTEM (CASEE) (CRITERIA, POLICIES, PROCEDURES)
OBE FLOW CHART

MISSION, VISION, CONTITUENCIES

CONTINUOUS QUALITY IMPROVEMENT (CQI)

ANALYSIS

ASSESSMENT

PROGRAM EDUCATIONAL OBJECTIVES

PROGRAM OUTCOMES

COURSE OUTCOMES
ACCREDITATION CRITERIA

9 GENERAL CRITERIA:

1. PROGRAM EDUCATIONAL OBJECTIVES
2. STUDENT OUTCOMES
3. STUDENTS
4. FACULTY AND SUPPORT STAFF
5. CURRICULUM
6. FACILITIES AND LEARNING ENVIRONMENT
7. LEADERSHIP AND INSTITUTIONAL SUPPORT
8. EXTENSION SERVICE, COMMUNITY-ORIENTED PROGRAMS AND INDUSTRY-ACADEME LINKAGE
9. CONTINUOUS QUALITY IMPROVEMENT

SPECIFIC PROGRAM CRITERIA:

- CURRICULUM
- FACULTY
There are **19** Engineering Higher Education and **68** Engineering Programs accredited/recognized by Philippine Technological Council Accreditation Board for Engineering and Technology (PTC ACBET)
Capacity Building

Capacity building in spearheaded by the different entities such as the following:

Commission on Higher Education (PRC)
Professional Regulation Commission (PRC)
Department of Science and Technology (DOST)
Philippine Technological Council (PTC)
Challenges...
Preparations for the Outcomes-Based Education (OBE) mindset

- Top Level Administrative support for the Engineering HEIs
- Faculty Members’ OBE adoption (a total change of the teaching and learning activities, etc...)

CASEE Training Roadshow – supported by the Commission on Higher Education (CHED), Engineering Accredited Professional Organizations, Philippine Association of Engineering Schools formerly (PATE)
A brighter future for our Engineering Graduates
Good day!