Engineering Accreditation in the Philippines

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FOR ENGINEERING AND TECHNOLOGY

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
1970s	• Technical Committees for Engineering Education formed with representation from industry and the academe
1980s	• DECs Order No. 102, s. 1989 - Policies and Standards for Engineering Education Issued
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

K - 12 PROGRAM

GRADE 12 (17 YEARS OLD) — NEW HS YEAR 6

GRADE 11 (16 YEARS OLD) — NEW HS YEAR 5

2 YEARS OF SENIOR HIGH SCHOOL

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

4 YEARS OF JUNIOR HIGH SCHOOL

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)

6 YEARS OF ELEMENTARY

KINDERGARTEN (5 YEARS OLD) — KINDERGARTEN

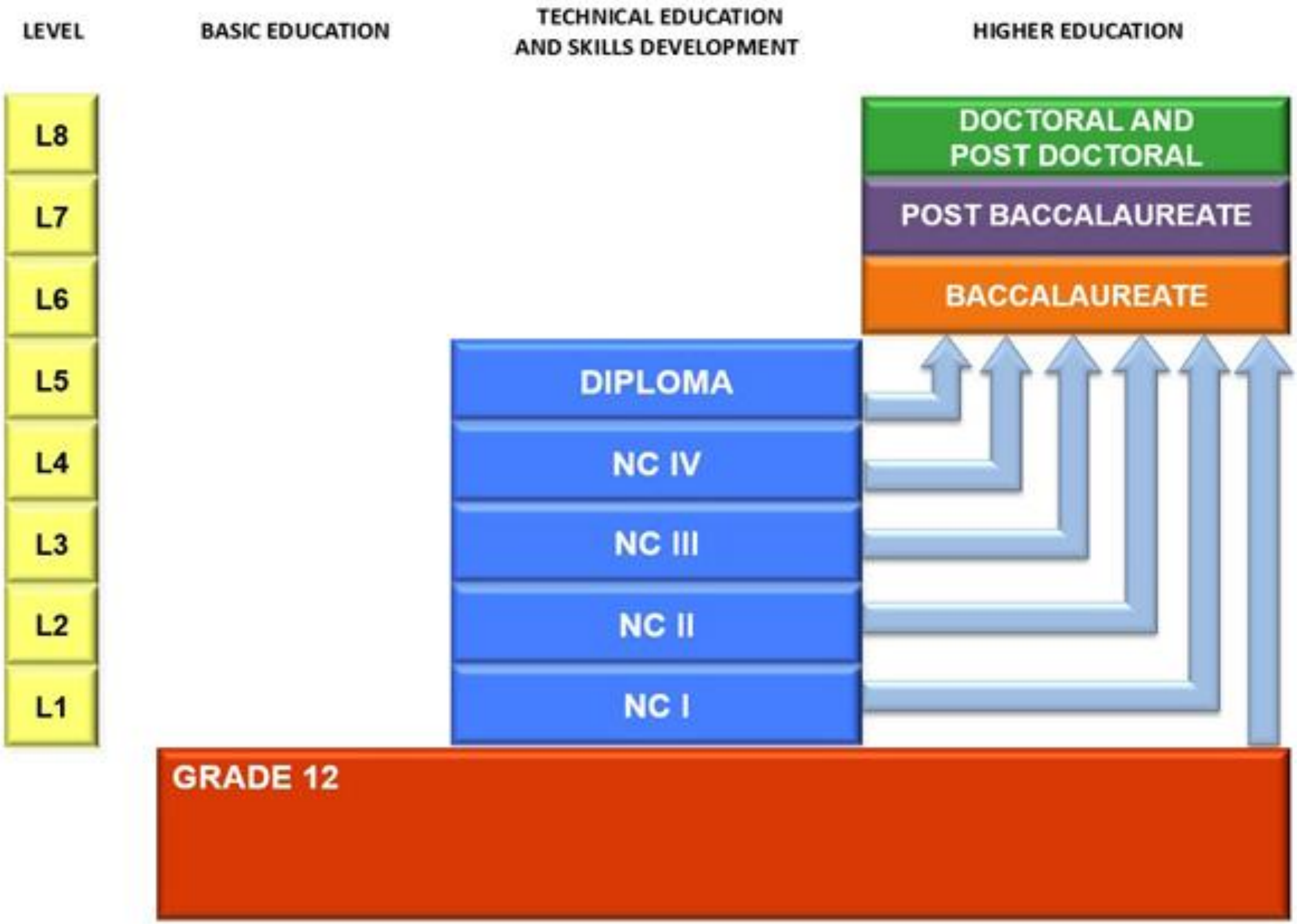
ALL SCHOOLS MUST ADHERE TO THE FOLLOWING STANDARDS:

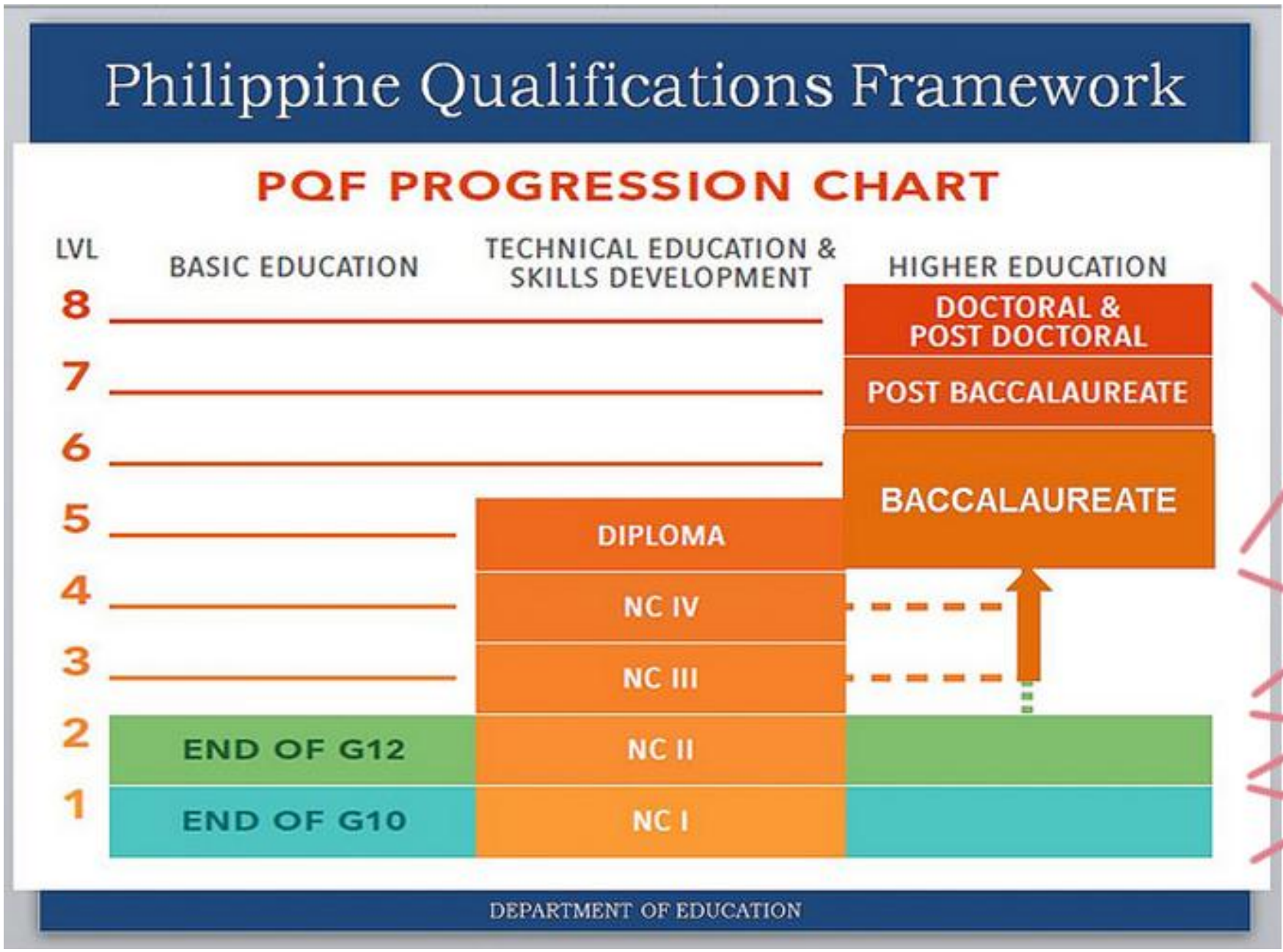
1. AGE REQUIREMENT
2. DURATION
3. CURRICULUM

SOURCE: DepEd

as per PQF-NCC Resolution No. 2014-03 adopted on December 11, 2014

The PHL Qualifications Framework





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

The Philippine Educational System

AGE

28
27
26
25
24
23
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Doctoral Degree
(3-4 years)

Master's Degree
(2 years)

Bachelor's Degree
(4-5 years)

Associate Certificate/ Vocational Training
Long Term (1-3 years)
Short Term (< 1 year)

Doctor of Medicine, Juris Doctor,
Doctor of Divinity
(4 years)

Bachelor's Degree
Preparatory programs for
Medicine, Law, d Religious
Education (4 years)

Senior High School
(2 years)

Junior High School
(4 years)

Elementary
(6years)

Kindergarten

Nursery

*PQF

8
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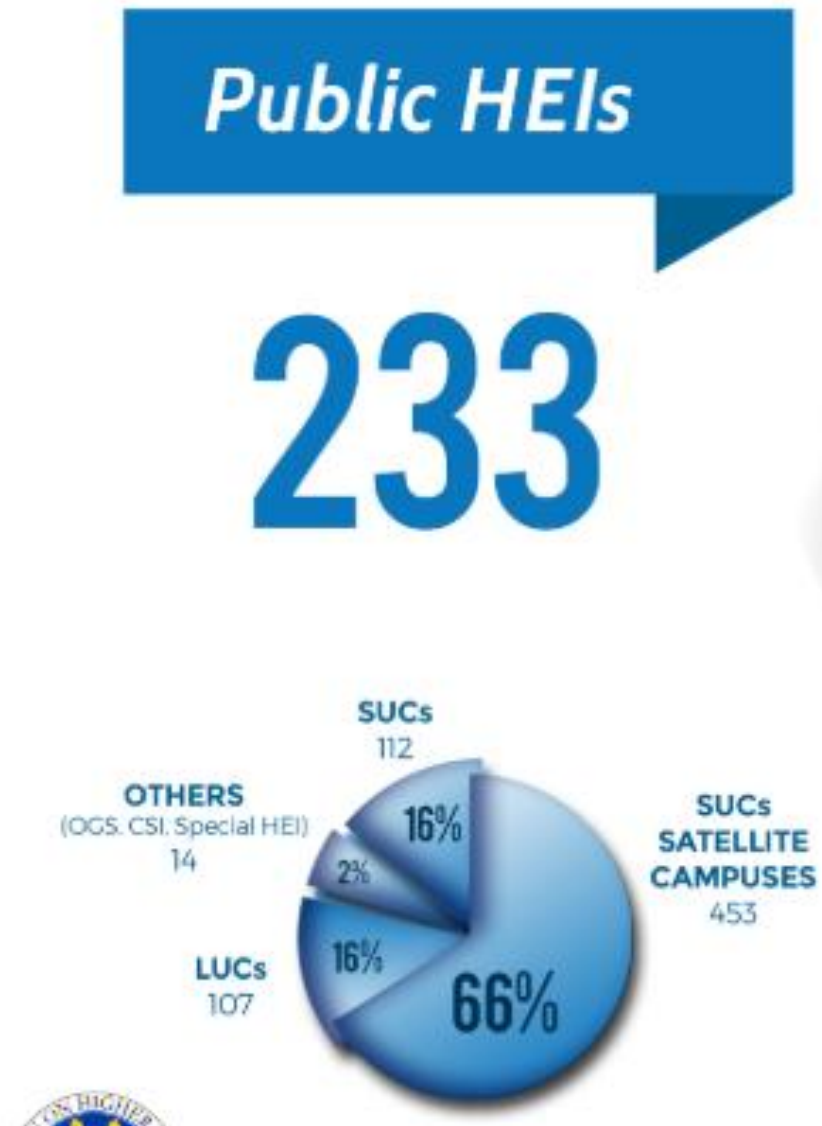
*Philippine Qualification Framework

Number of Higher Education Institutions

As of 8 June 2017

Public HEIs

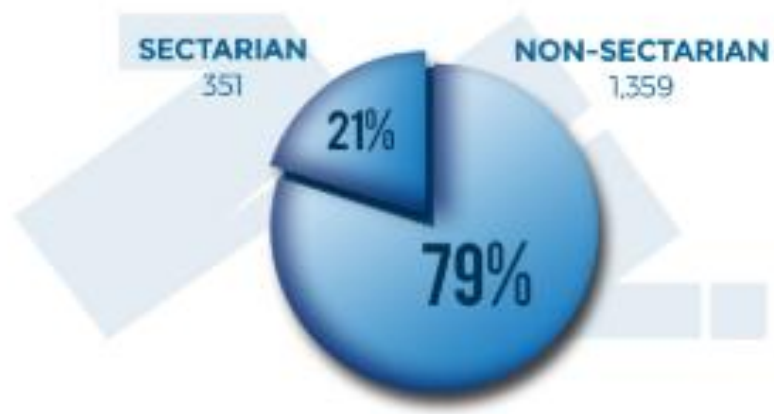
233



ACADEMIC YEAR
2016-2017

Private HEIs

1,710



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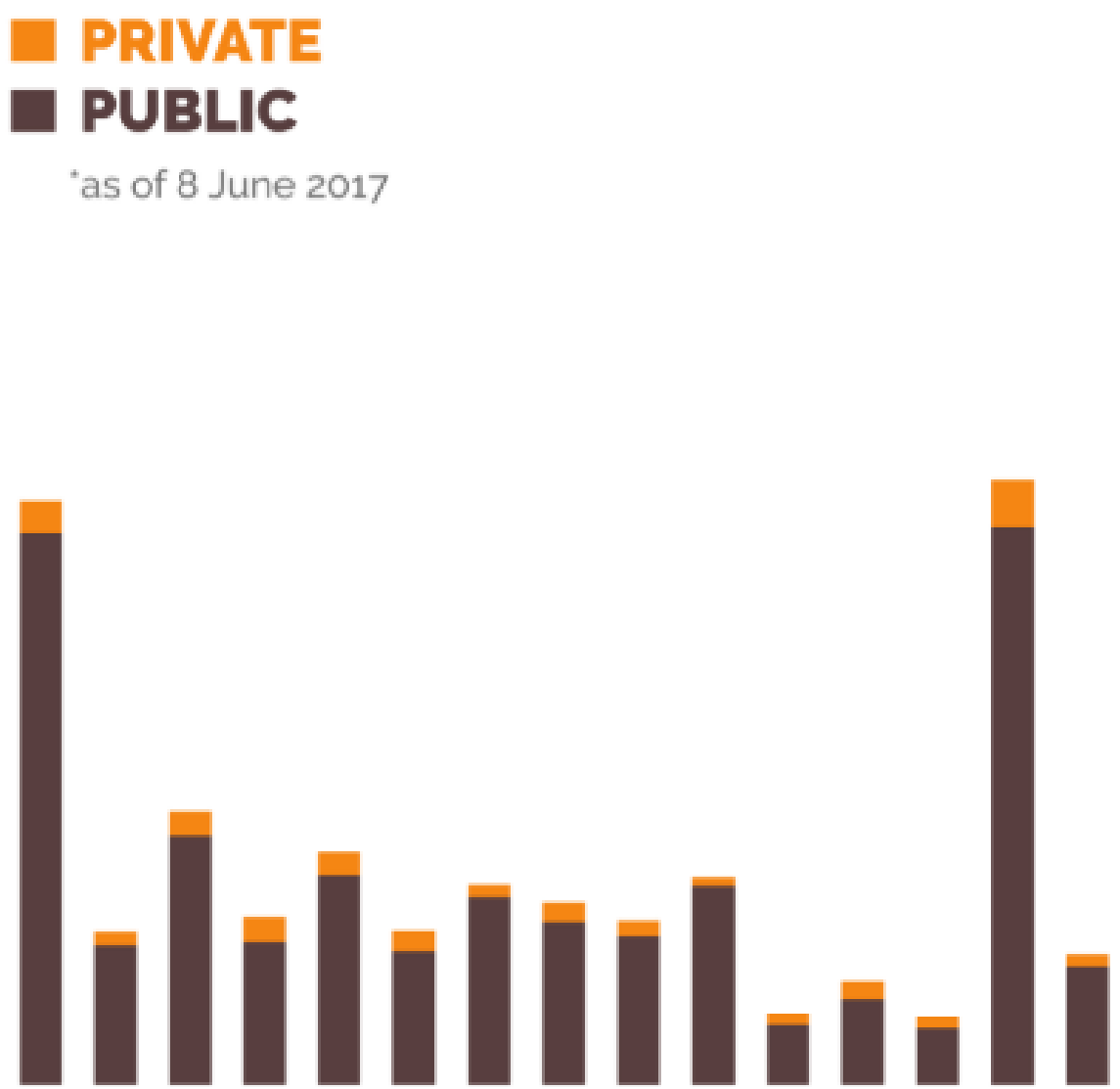
REGIONAL DISTRIBUTION OF HIGHER EDUCATION INSTITUTIONS

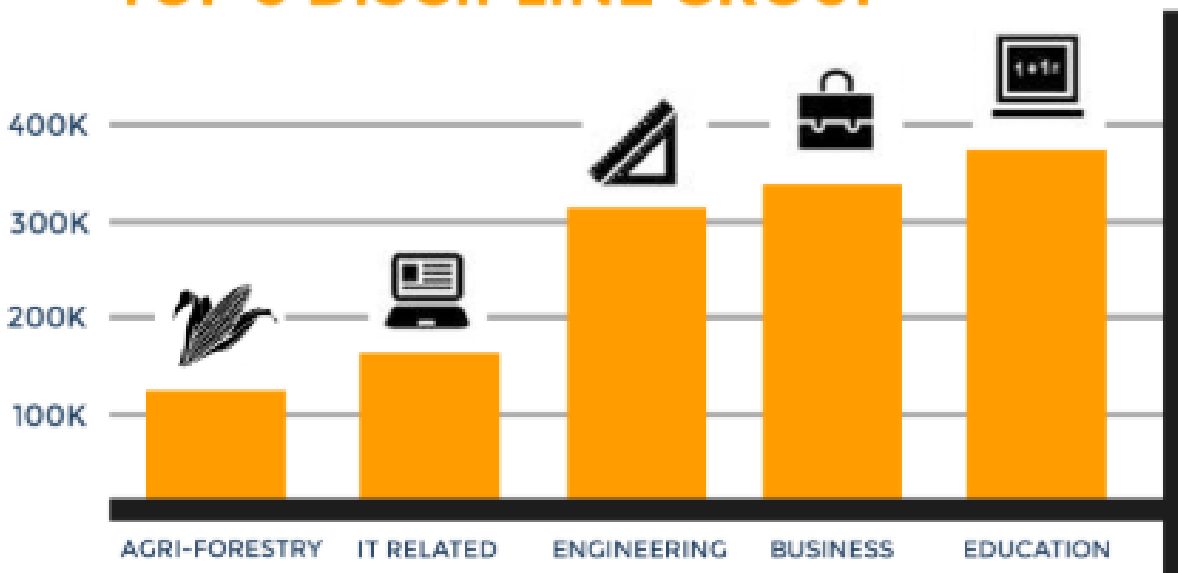
BASED ON SECTOR, AY 2016-2017

PRIVATE		PUBLIC
82	I	10
48	II	5
174	III	27
262	IV-A	21
41	IV-B	8
113	V	28
48	VI	16
103	VII	14
52	VIII	13
54	IX	7
64	X	12
77	XI	9
96	XII	5
38	XIII	5
54	ARMM	11
36	CAR	7
317	NCR	28
51	NIR	7
1,710	TOTAL	233



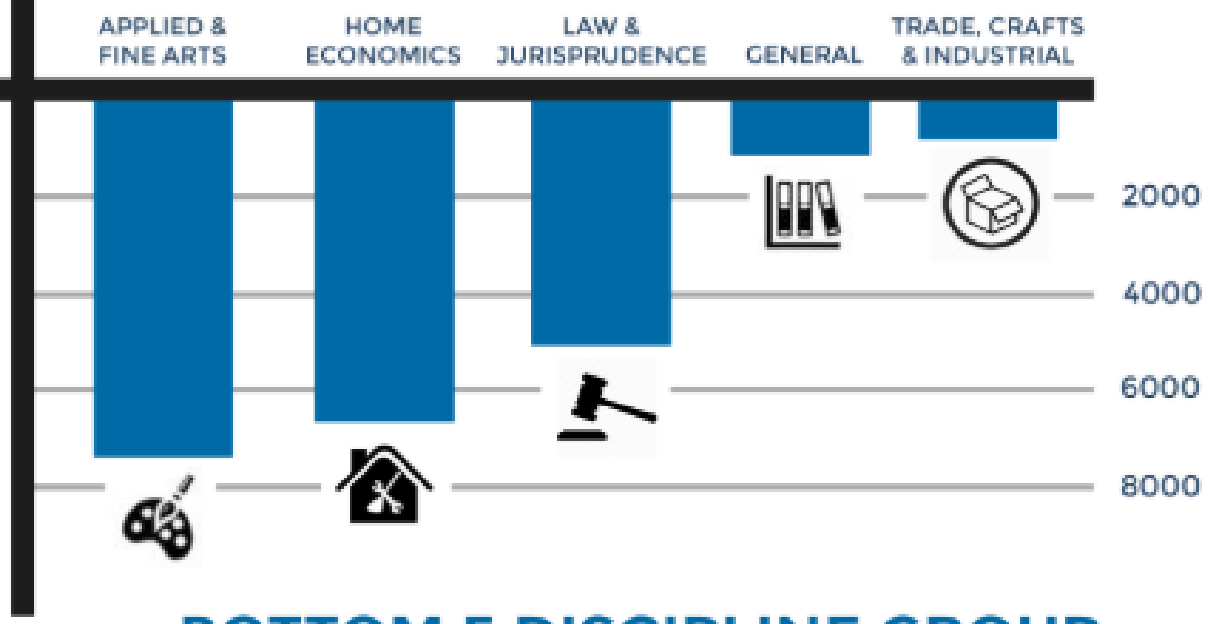
*as of 8 June 2017

TOP 5 DISCIPLINE GROUP



Education	343,656
Business	287,255
Engineering	263,630
IT Related	147,808
Agri-forestry	111,859

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



BOTTOM 5 DISCIPLINE GROUP

SUCs ENROLMENT BY DISCIPLINE GROUP

ACADEMIC YEAR 2016 - 2017

as of 10 April 2017

ACCORDING TO DISCIPLINE GROUP, SECTOR AND GENDER

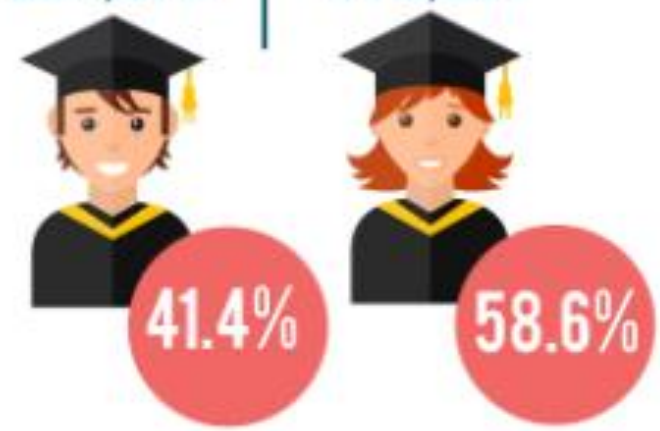
AS OF 8 JUNE 2017

(OVER-ALL BASE ON DISCIPLINE GROUP)

	BUSINESS	EDUCATION	ENGINEERING	OTHERS	IT RELATED	MEDICAL
ENROLMENT	921,324	740,713	448,550	212,709	398,765	203,561
GRADUATES	185,858	118,567	76,423	32,500	77,250	41,805

DISTRIBUTION OF GRADUATES AY 2015-2016

(OVER-ALL PUBLIC AND PRIVATE)

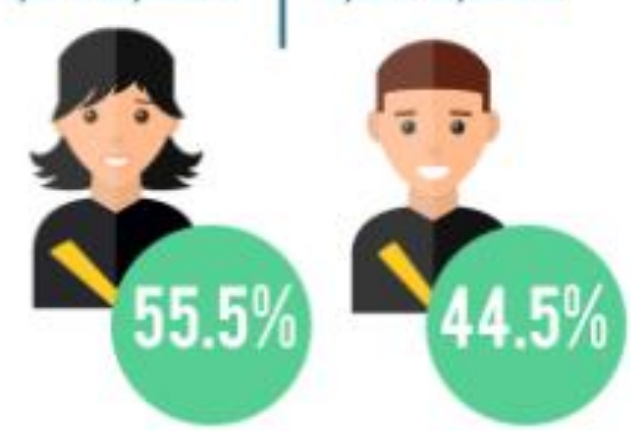


(OVER-ALL BASE ON SECTOR)

	GRADUATES	ENROLMENT
PUBLIC (49.1%)	128,458	690,257
	188,934	951,350
PRIVATE (50.9%)	138,918	906,372
	189,663	1,041,505

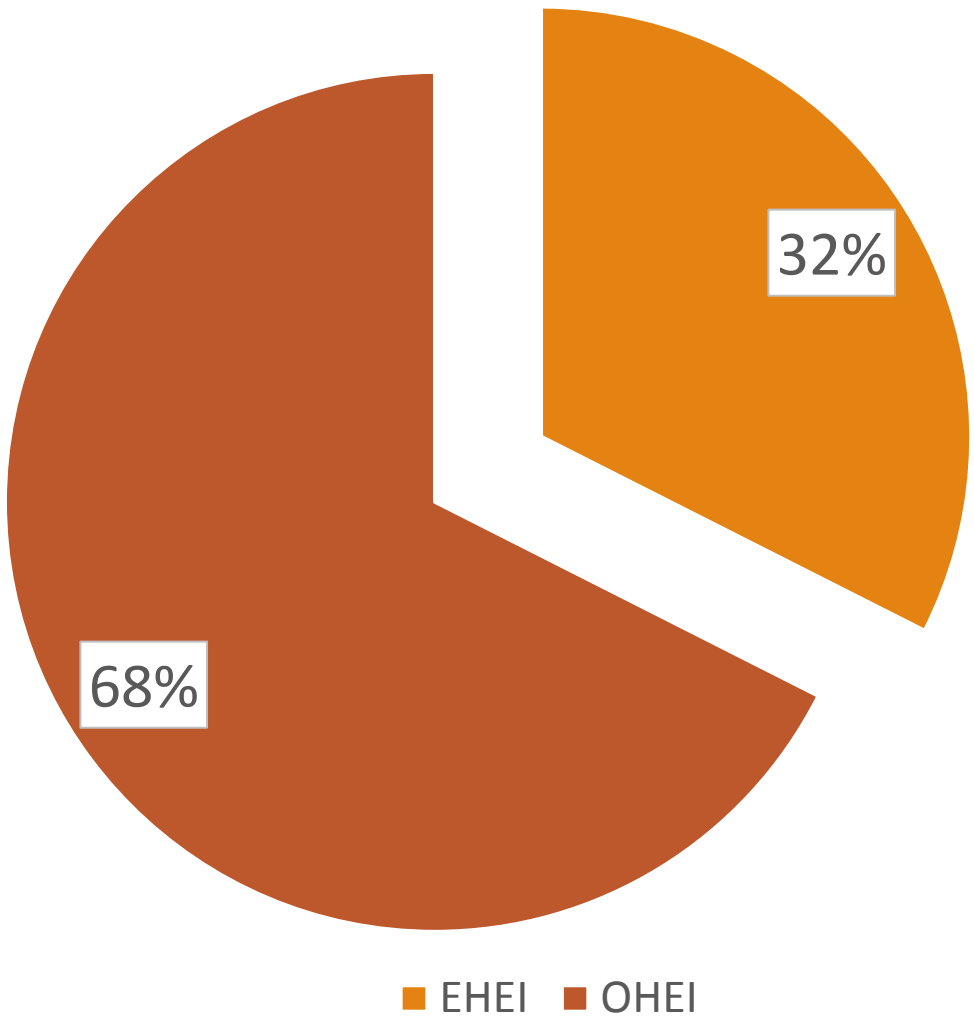
DISTRIBUTION OF ENROLMENT AY 2016-2017

(OVER-ALL PUBLIC AND PRIVATE)



(OVER-ALL BASE ON SECTOR)

- PUBLIC (46.0%)
- PRIVATE (54.0%)



Total Number of Higher Education Institutions	
Engineering	555
Non Engineering	1155

Accreditation

Self-Regulation

Self Evaluation

Accepted standards of quality

Judgement of peers

Continuous process

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
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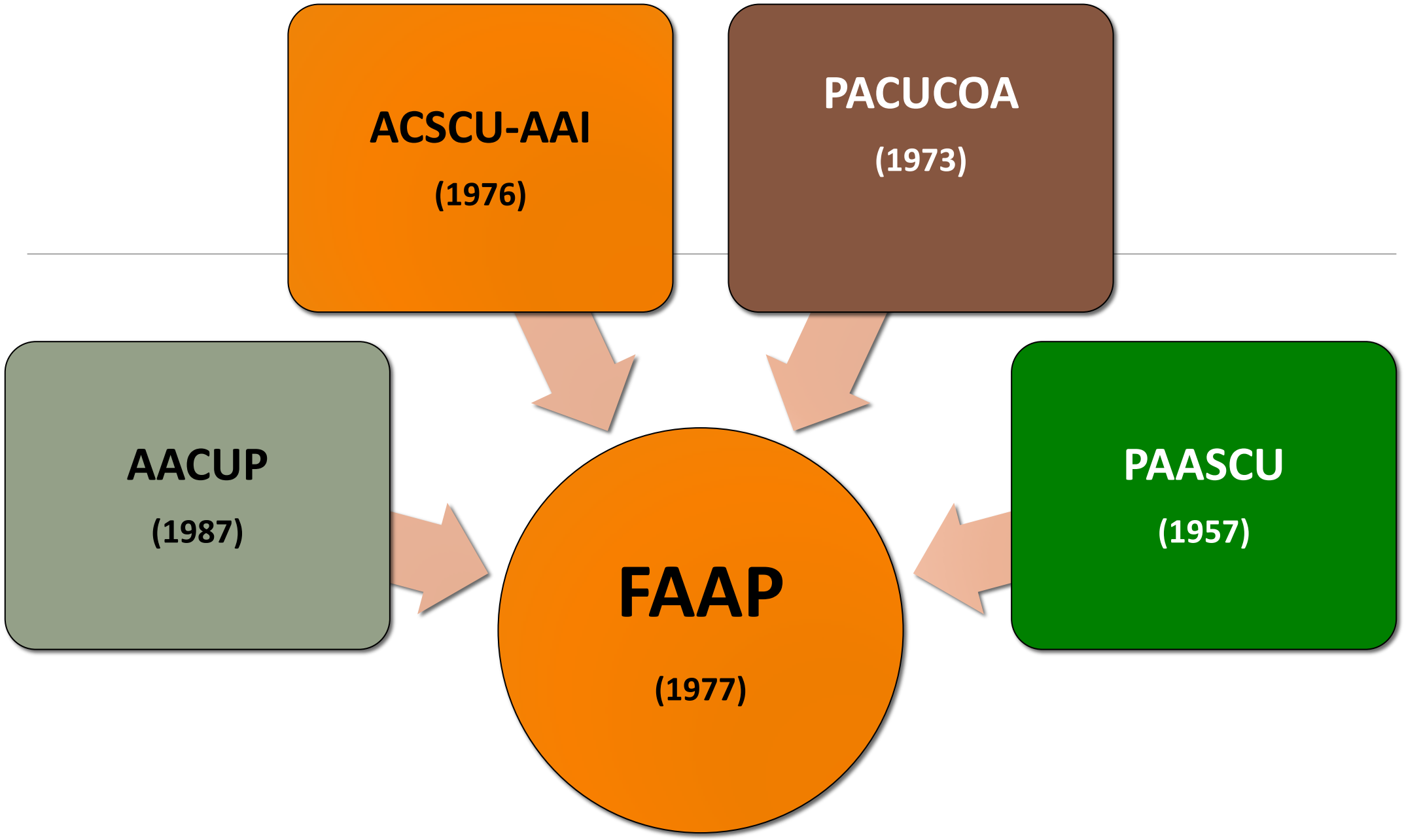
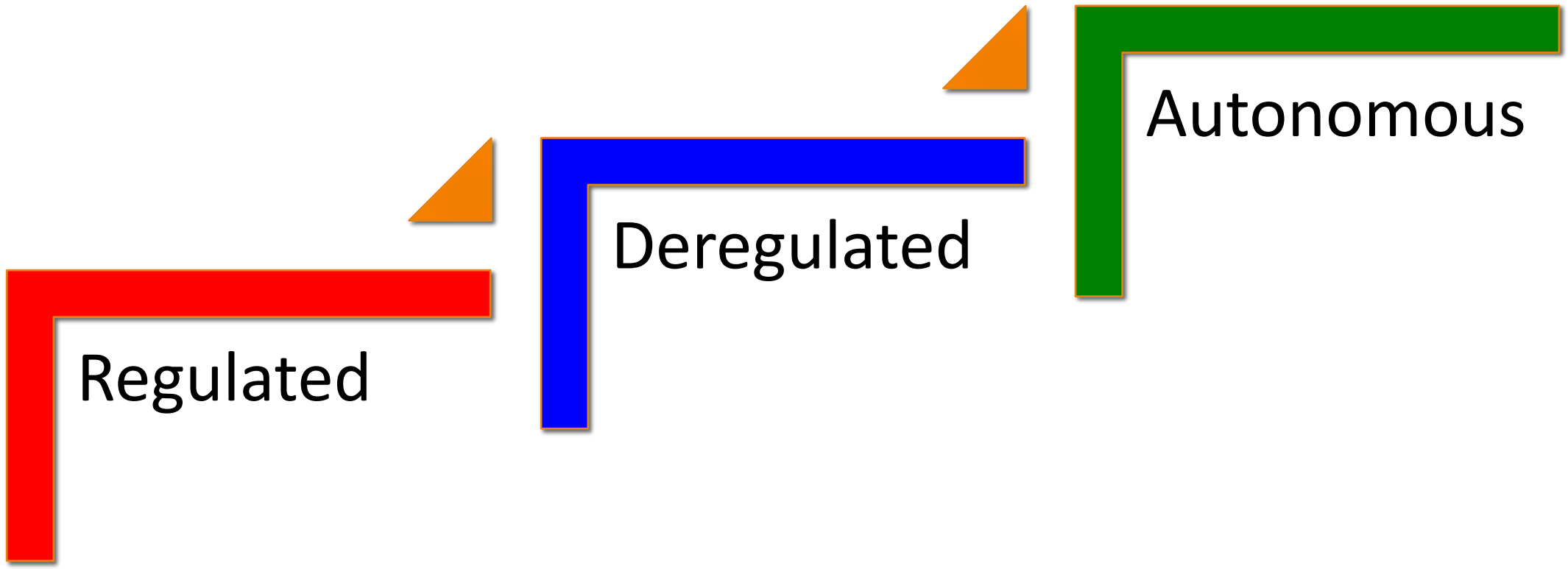
Philippine Context of Accreditation

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.

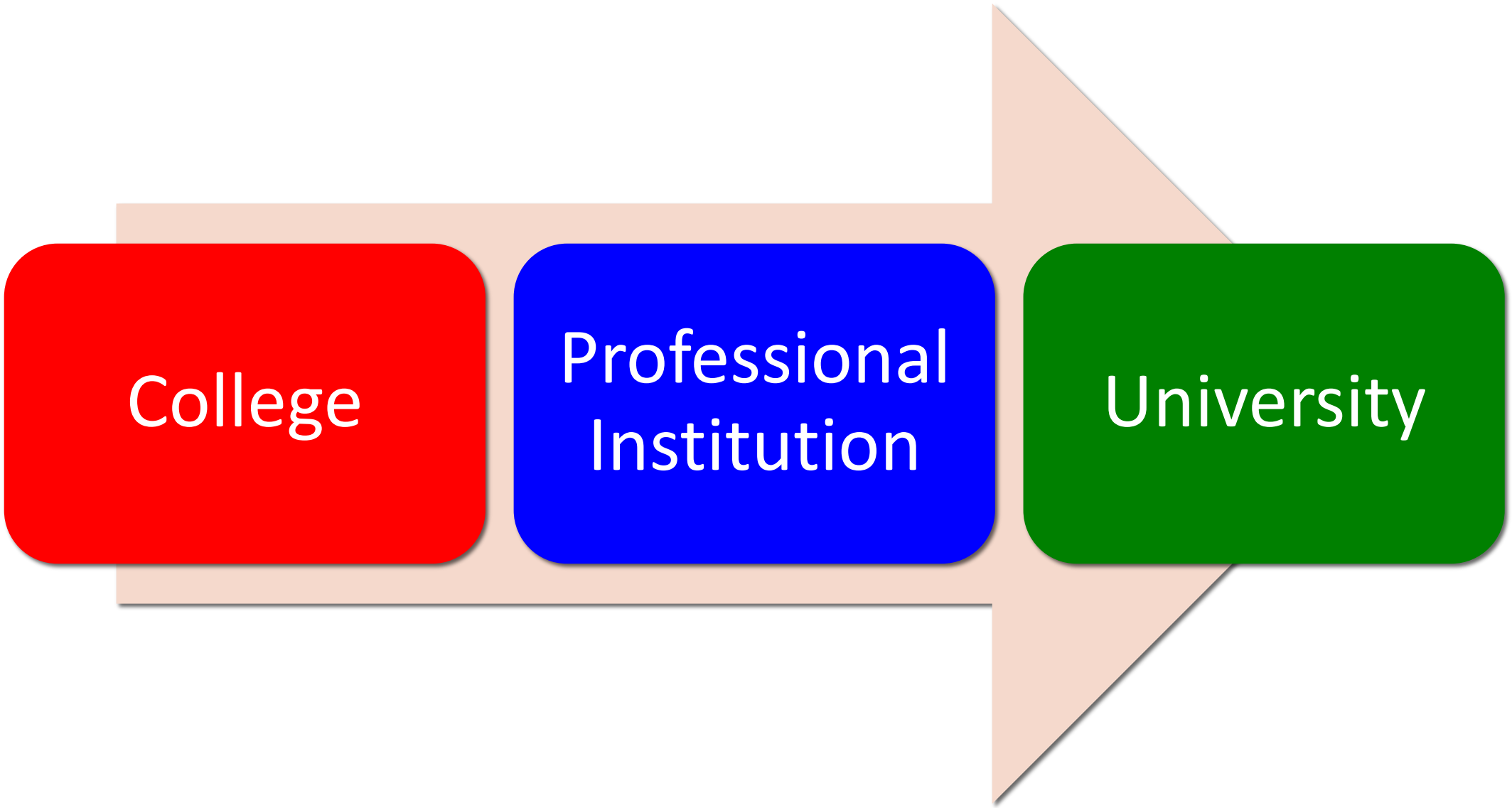


FAAP – Federation of Accrediting Agencies of the Philippines
AACUP – Accrediting Agency of Chartered Colleges and Universities in the Philippines
ACSCU-AAI – Association of Christian Schools, Colleges and Universities – Accrediting Agency Inc.
PAASCU – Philippine Accrediting Association of Colleges and Universities
PACUCOA – Philippine Association of Colleges and Universities Commission on Accreditation

Vertical Typology



Horizontal Typology



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

	No. of Engineering HEIs	%
Autonomous	43	7.6%
Deregulated	9	1.6%
Total	52	9.2%

COE & COD

	No. of Engineering Programs
Center of Excellence	30
Center of Development	54

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

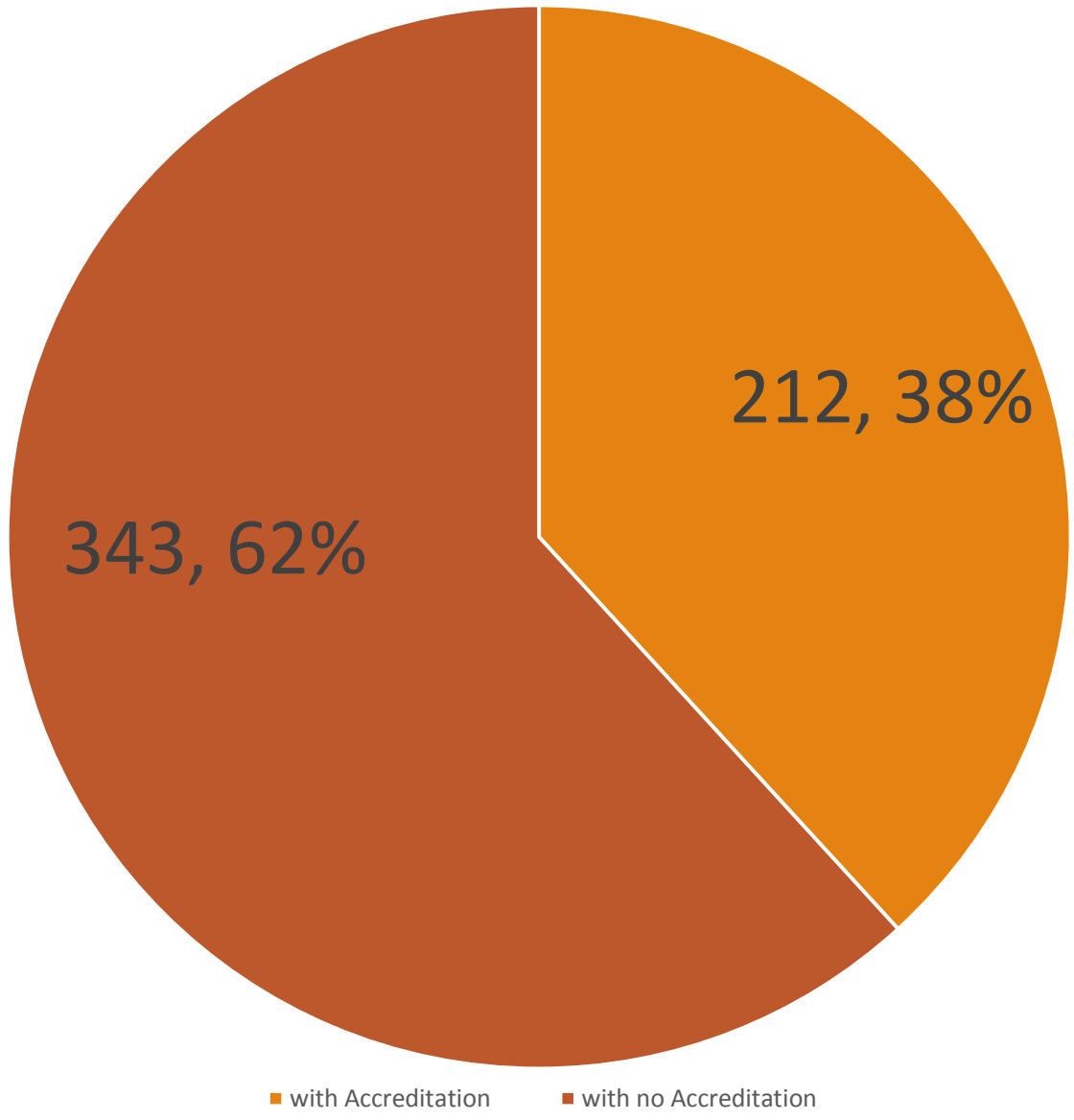
Level 3 – granted re-accreditation for a period of 5 years

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

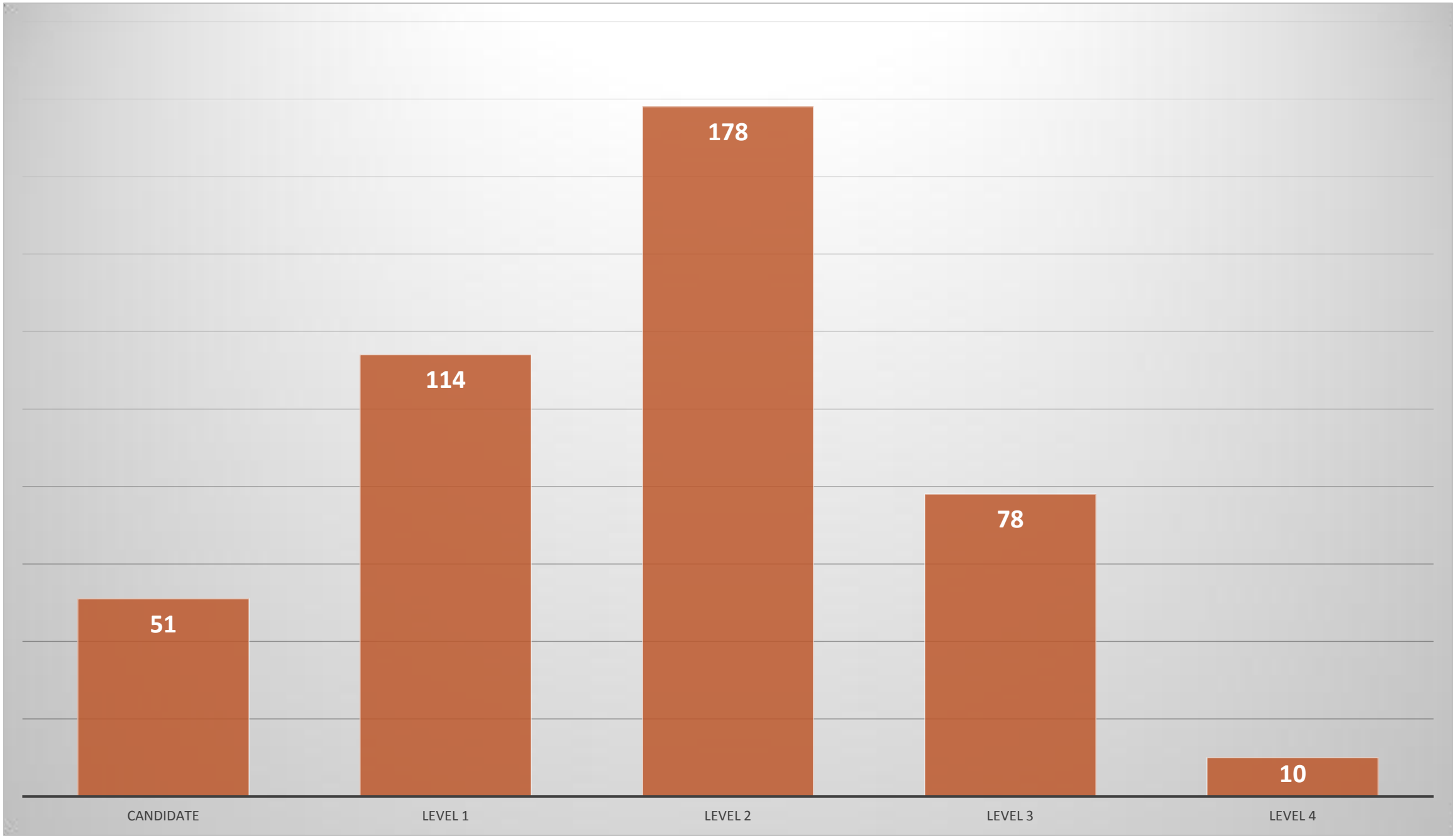
DE- REGULATED

AUTONOMOUS

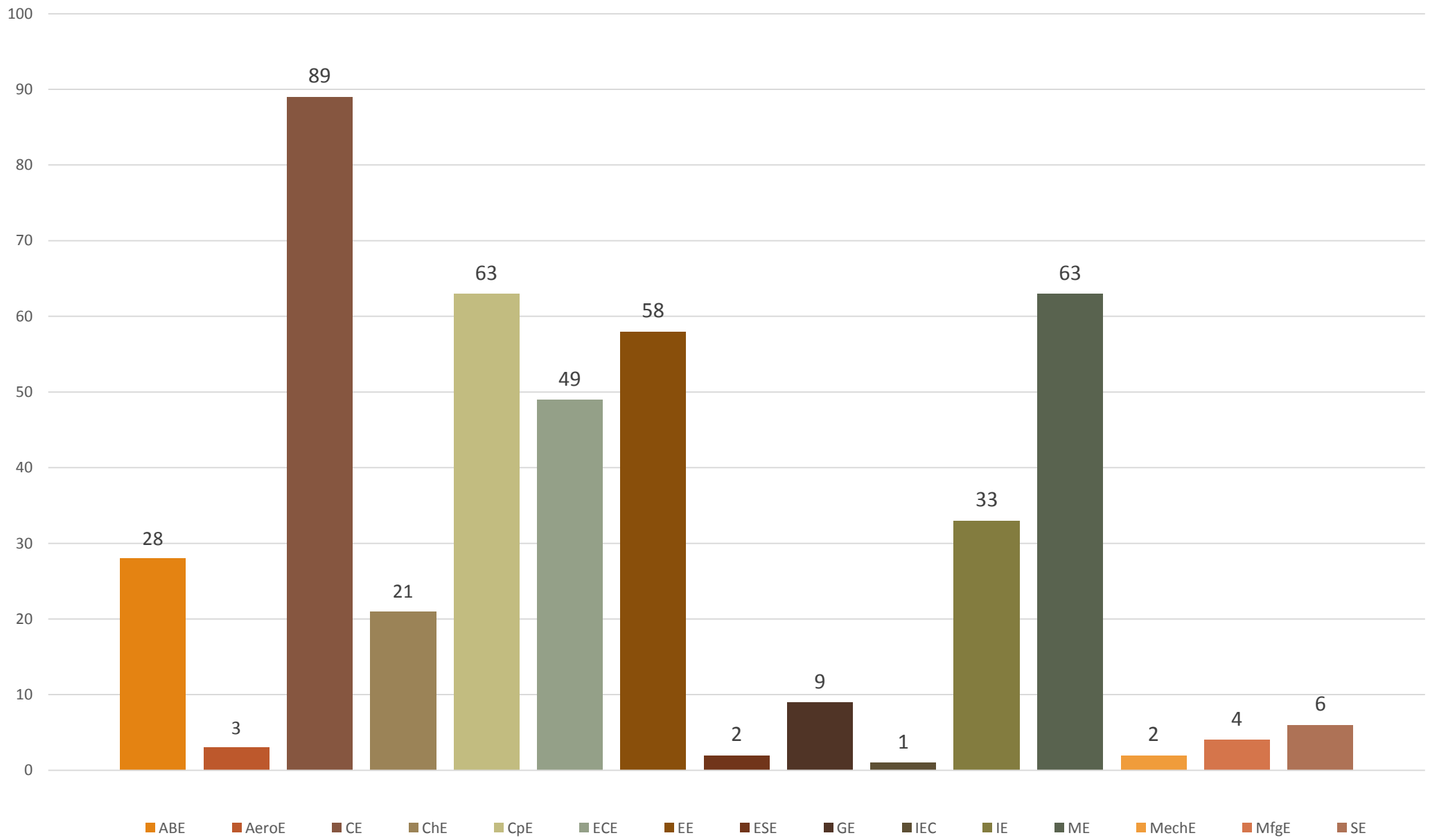
Engineering HEIs with Accreditation



Number of Accredited Engineering Programs and their Levels



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)

CMO 40, S.2008 – Manual of Private Higher Education Standards

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

Input Based Systems

Outcomes-Based

- CMO 37, S.2012
- CMO 46, S. 20012

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)

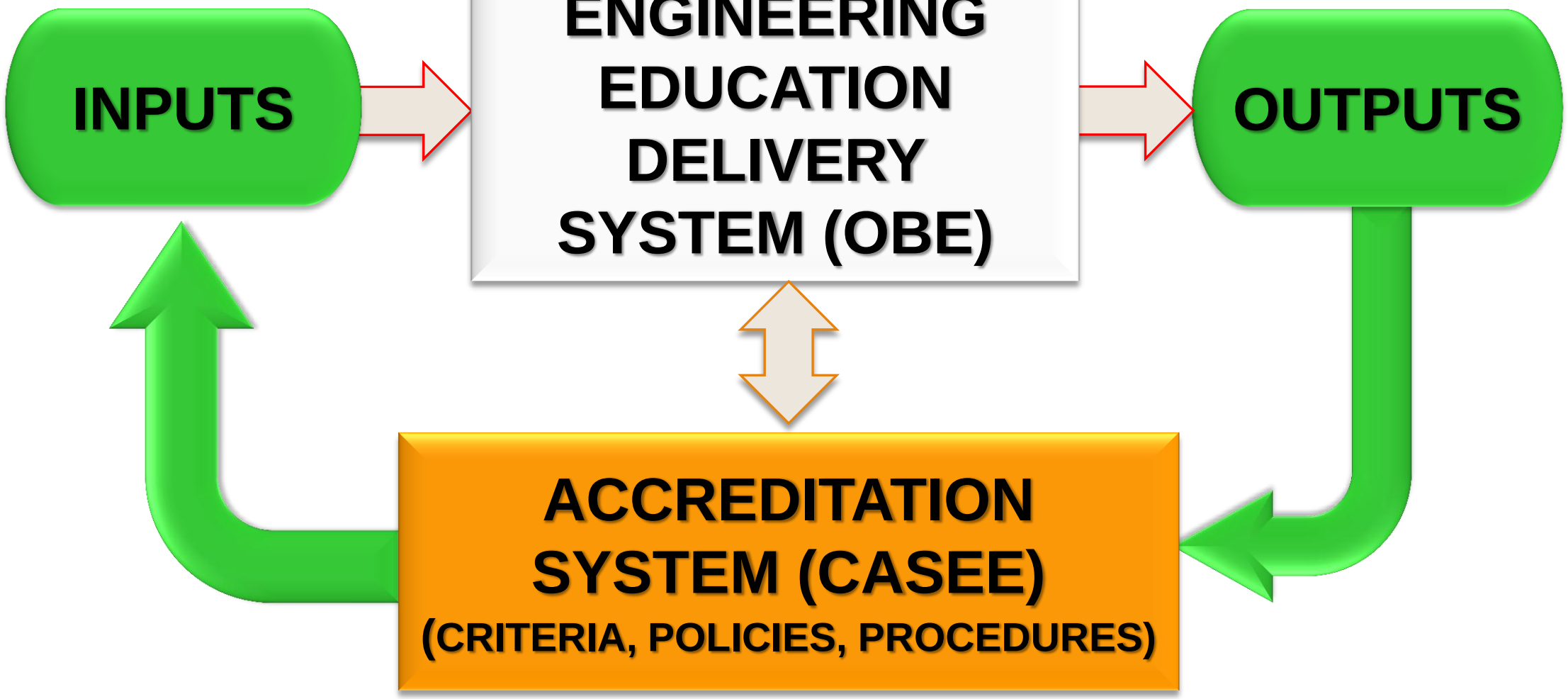
Recognized by Commission on Higher Education as the sole accrediting agency for the recognition of the engineering programs (2012)

OVERALL FRAMEWORK

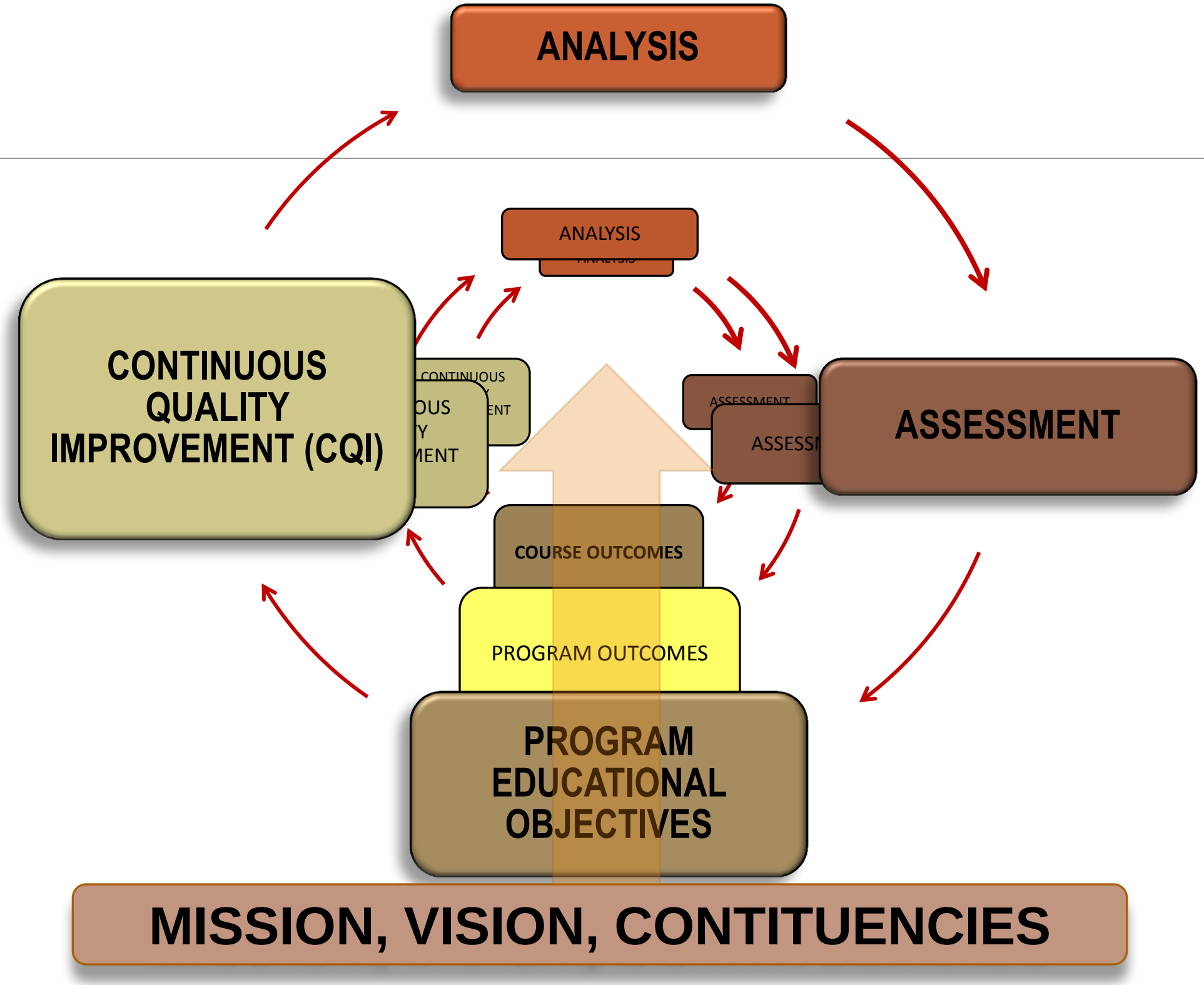
SOCIETAL NEEDS, ADVANCING TECHNOLOGIES, STUDENT'S ENROLMENT HUMAN AND MATERIAL RESOURCES, ETC

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

GRADUATE ATTRIBUTES, PROGRAM OBJECTIVES, STUDENT OUTCOMES



OBE FLOW CHART



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!