



FACING THE CHALLENGES OF ENGINEERING EDUCATION: CONTINUOUS IMPROVEMENT AT UNIVERSIDAD DEL NORTE

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OUTLINE

- ❖ About Universidad del Norte
- ❖ College of Engineering
- ❖ Continuous improvement Process in Higher education
- ❖ Global Assessment Model
 - ❖ Background
 - ❖ Timeline
 - ❖ Description of the model
 - ❖ Course Outcomes Assessment
 - ❖ Program Outcomes Assessment
 - ❖ Program Educational Objectives Assessment
- ❖ Results
- ❖ Conclusions



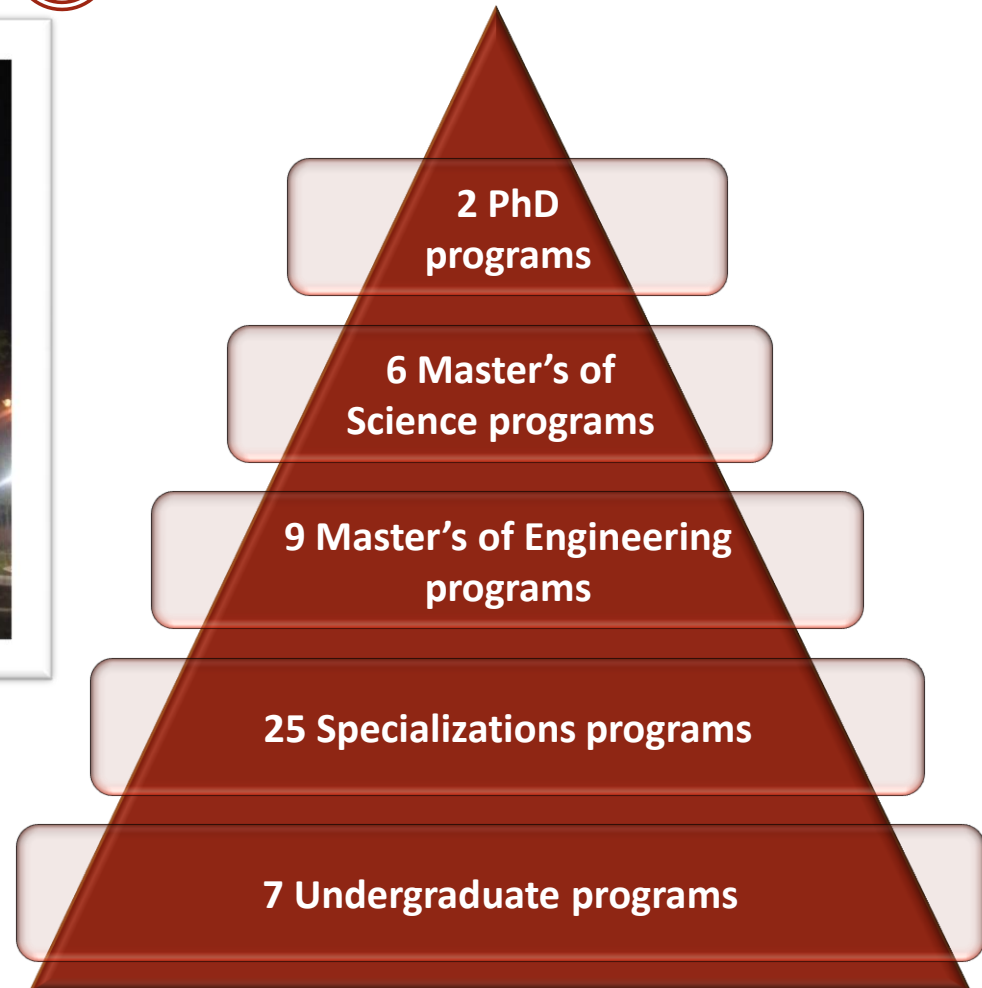


- 8.788 Undergraduate students
- 1.634 Students of Specialization programs
- 652 Students of Master programs
- 42 PhD students





- 4 PhD programs
- 21 Master programs
- 77 Specialization programs
- 20 Undergraduate programs



INTRODUCTION



In the last five years, College of engineering of Universidad del Norte, it has been implementing the international accreditation standard EC2000, formulated by ABET (Accreditation Board for Engineering and Technology).

CONTINUOUS IMPROVEMENT PROCESS IN HIGHER EDUCATION



- ❖ Universities are facing challenges in terms of productivity and competitiveness.
- ❖ Universities should demonstrate that their educational offer is based on national and international standards.

HIGHER EDUCATION

QUALITY ASPECTS



- ❖ Curriculum
- ❖ Administration of institutional resources
- ❖ Infraestructure
- ❖ Professor's education
- ❖ Board responsibility

GLOBAL ASSESSMENT MODEL

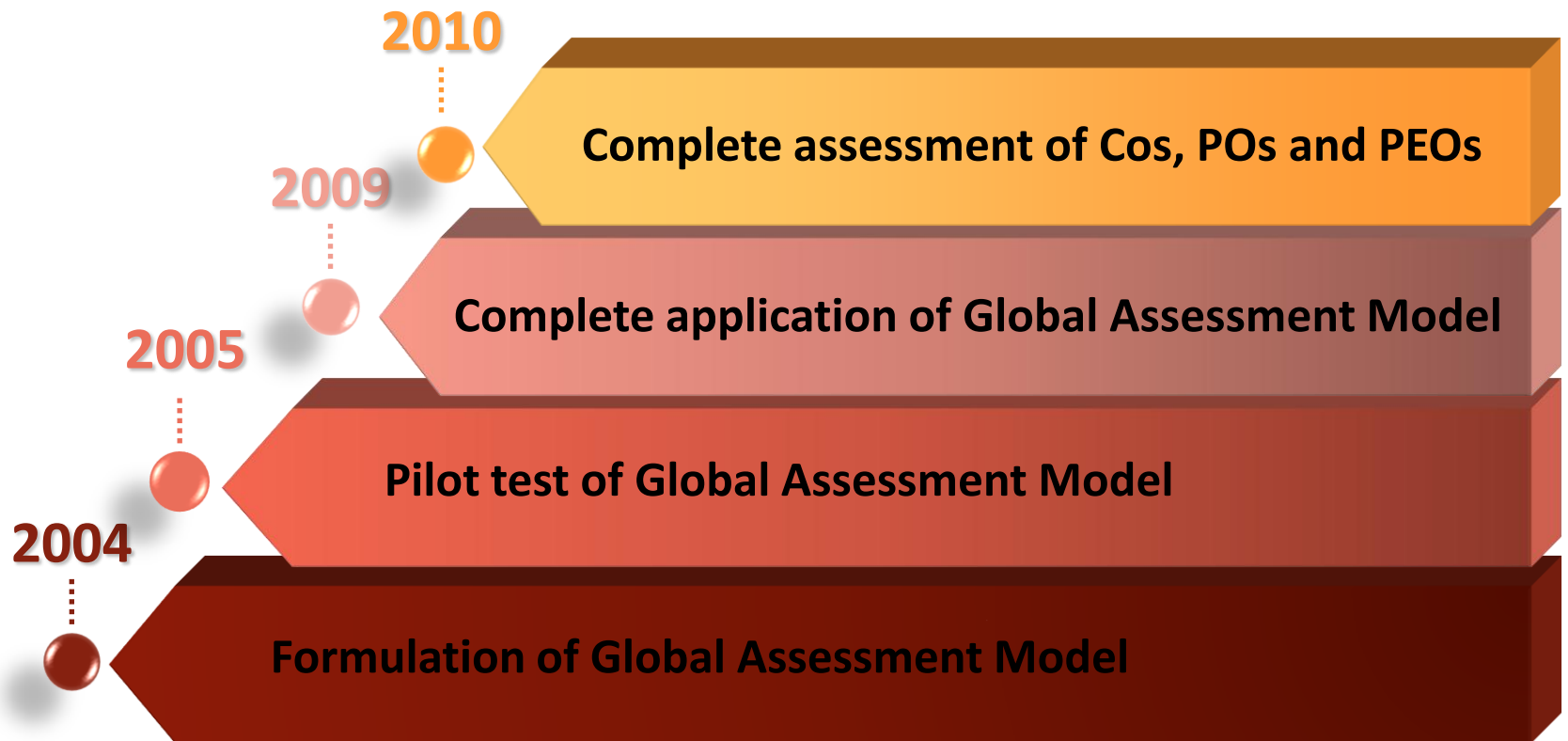
BACKGROUND



- ❖ College of Engineering has had as main objective to educate professionals that are capable to formulating solutions to real life problems within a technical, economical, political and social frame.
- ❖ The model is conceptually based on EC2000 (Engineering criteria 2000), formulated by ABET.

GLOBAL ASSESSMENT MODEL

TIMELINE



Institutional Mission

Project of Curriculum
Modernization

International References
for Engineers Education

NNNNN ENGINEERING PROGRAM EDUCATIONAL OBJECTIVES

Obtained through

Strategies for achieving program outcomes

Strategies for achieving course outcomes

Instructions/Faculty
Development

Facilities

Curriculum

Annual Course adjust

Assessed each
semester using

Curriculum Committee &
Chair of Department

Course Based
Assessment

Evaluated
by

Assessment Report
by course

Product of
assessment of P.O.

Curriculum Committee
Advisory Board

Chair of Department
Program Coordinators
Curriculum Committee

Assessed annually using

Evaluated by

- Curriculum Committee Report
- Assessment Report by course
- Comprehensive Exams (I & II) Report
- ECAES* Report
- Internships student report
- Fifth year student survey
- CNA Accreditation Report

Evaluated by

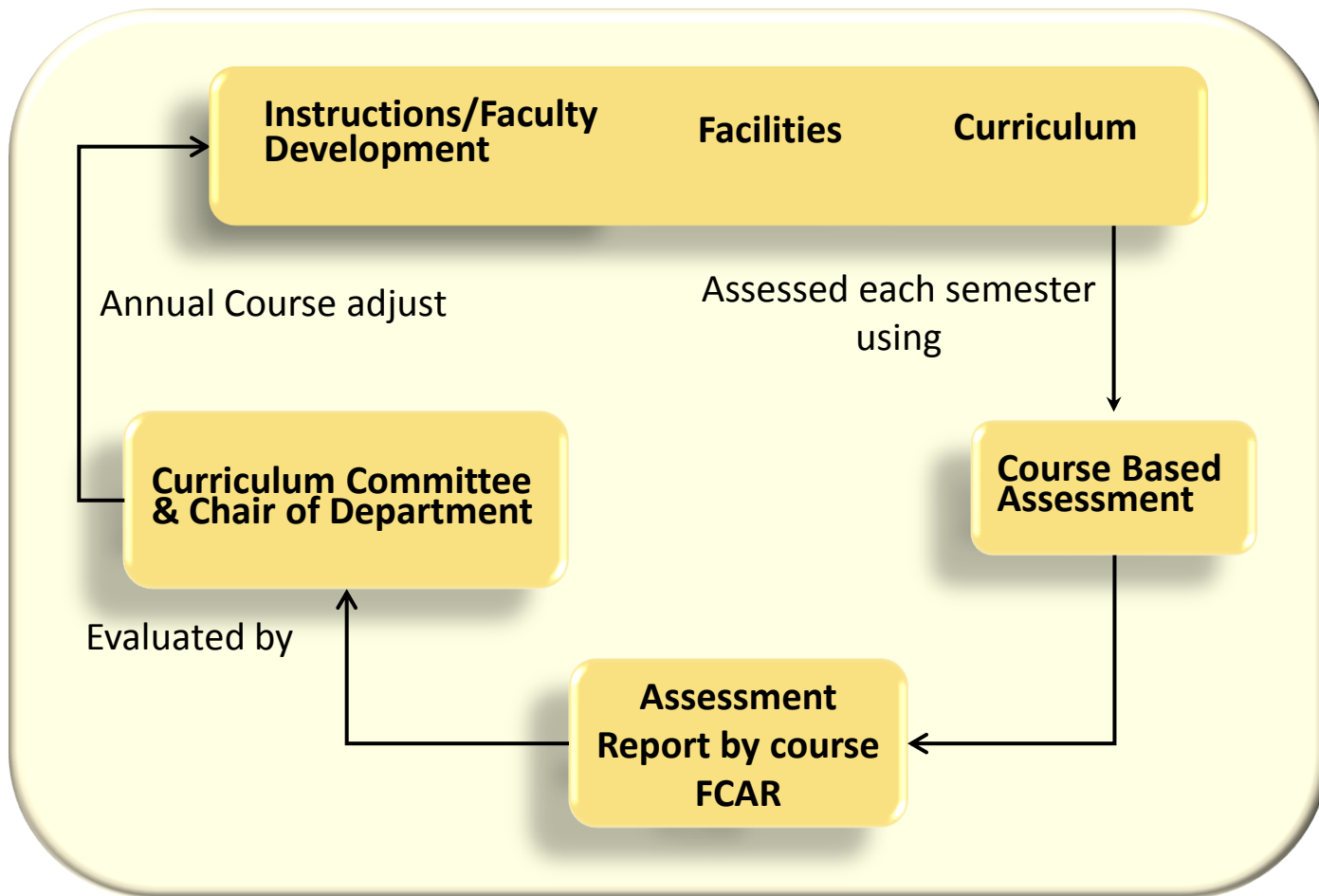
- Alumni survey
- Employers Survey

Assessed Triennially using

* Quality Exam of Higher Education

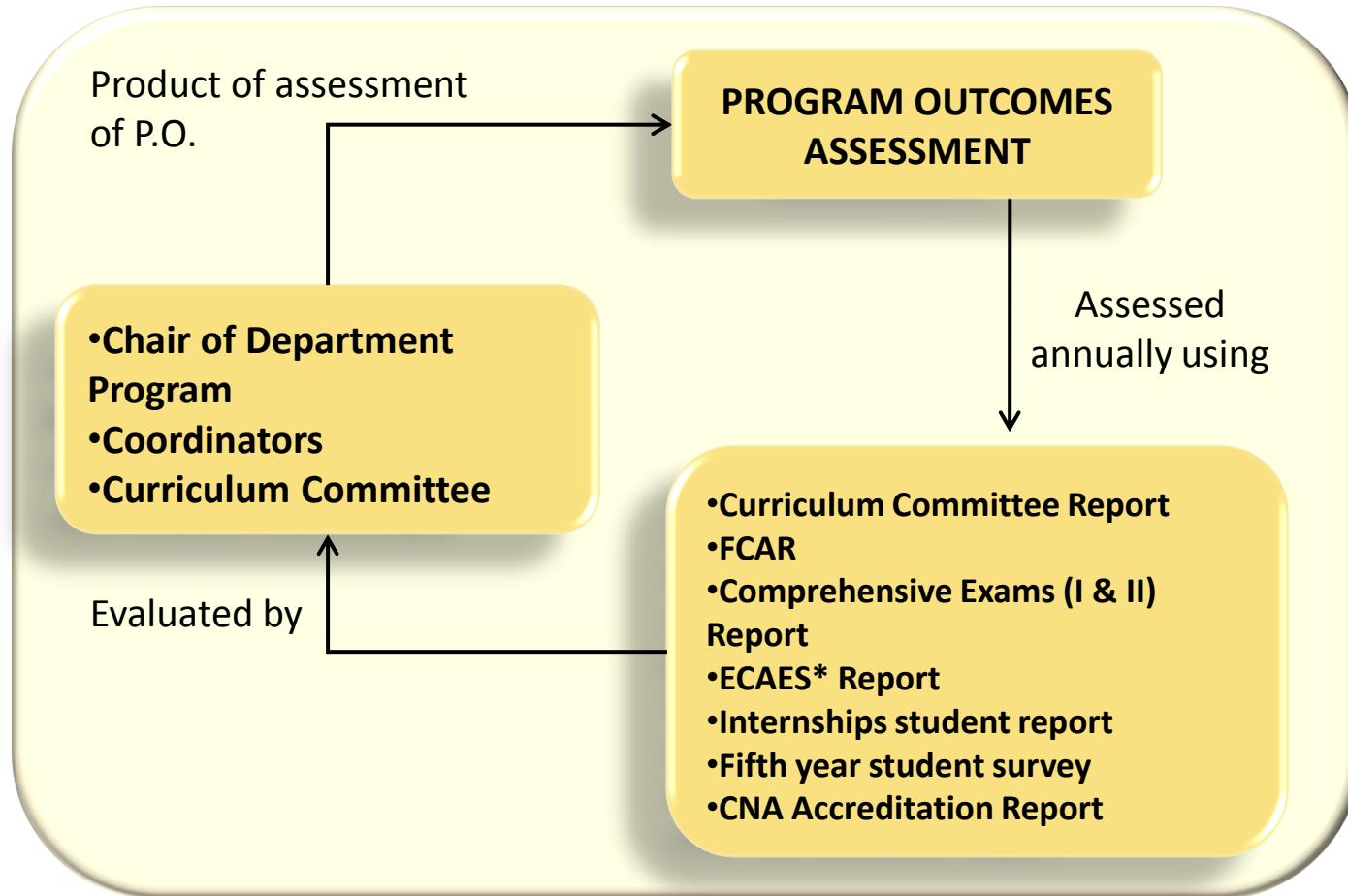
GLOBAL ASSESSMENT MODEL

COURSE OUTCOMES ASSESSMENT



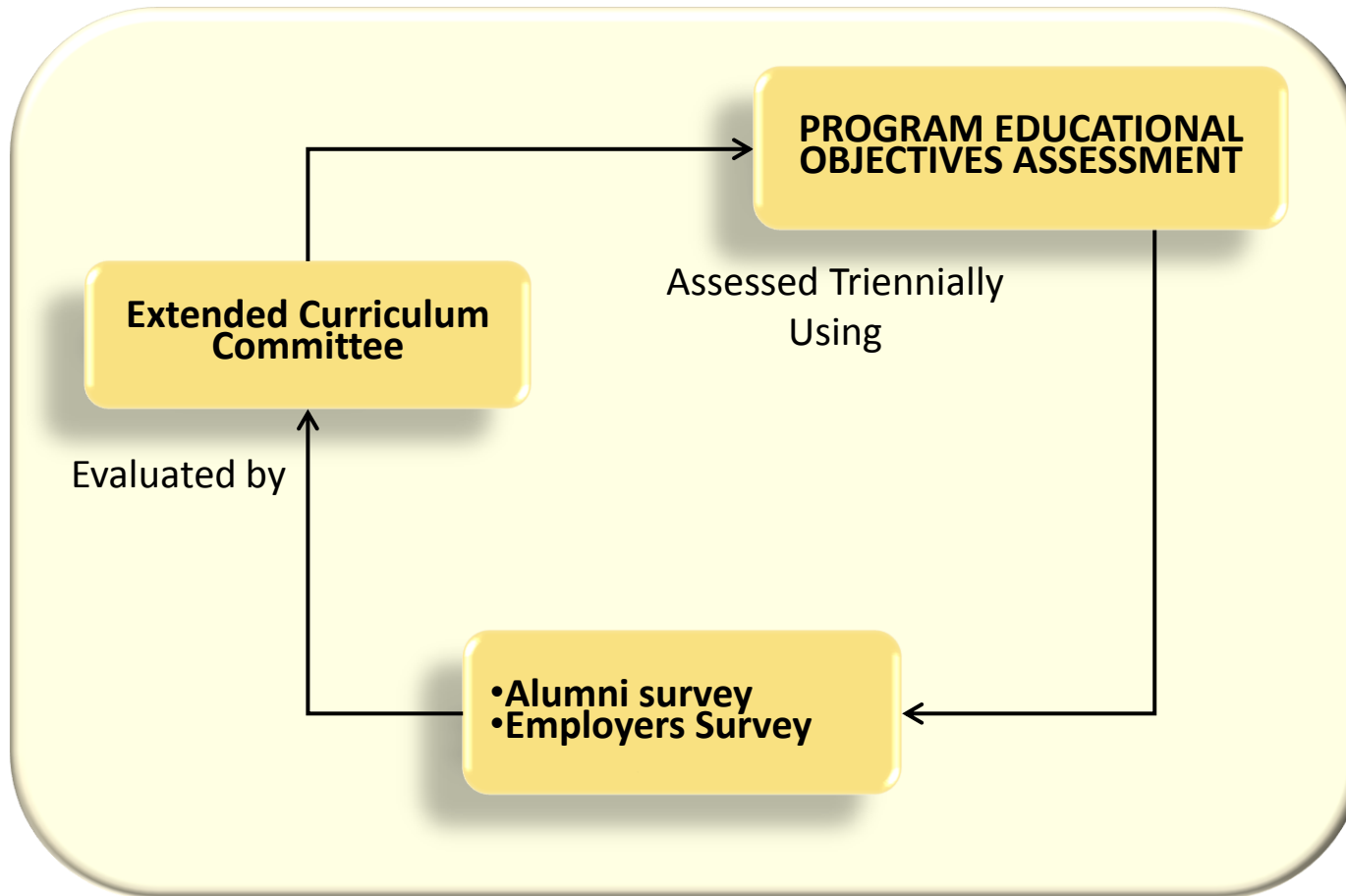
GLOBAL ASSESSMENT MODEL

PROGRAM OUTCOMES ASSESSMENT



GLOBAL ASSESSMENT MODEL

PROGRAM EDUCATIONAL OBJECTIVES ASSESSMENT



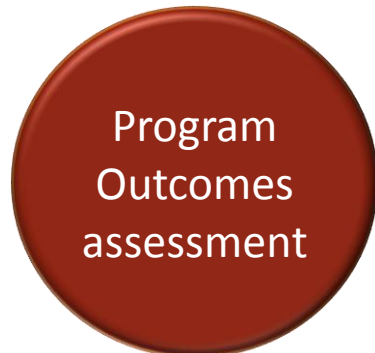
RESULTS



Contributed to



- ❖ Improvement of the course contents.
- ❖ Improvement of teaching and evaluation methodologies.
- ❖ Improvement actions for specific courses and complete areas of the curriculum.



Permitted



- ❖ Articulation of the evaluation from different courses
- ❖ Innovation in form of evaluation (rubrics)
- ❖ Measurement of the program's PO

RESULTS



Permitted



- ❖ Identification of the performance levels of the alumni.
- ❖ Recognition that the alumni and employers have of the college of engineering.
- ❖ Improvement actions towards the complete achievement of PEO have been formulated.

- ❖ Complete model is being revised in order to improve the processes and standardize some tools.

CONCLUSIONS



- ❖ The model applied intends to take into consideration the regional and colombian higher education's proper contextual characteristics, together with international references for the engineer's education.
- ❖ The next step will consist in the complete standardization of the model, supported with the software development to speed up the information processing.

CONCLUSIONS



- ❖ Processes will be redefined and some tools will be adjusted, with the objective of facilitating the application of the aforementioned, incorporating it in the normal routine of the engineer's education.