



IE Program IAB Meeting
Minutes
October 4, 2018

Attendees:

Andy Brunot, ABB Industrial C&S of P.R. LLC
Aixa Cintrón, Kimberly Clark (by Google Hangouts)
José Colón, Amgen
José Nieves, CIAPR-III, IE IAB President
Rafael Sánchez, Boeing

Dr. Viviana Cesaní, Department Head
Dr. Betzabé Rodríguez, Assoc. Department Head
Dr. María Irizarry, Assessment Coordinator

Excused:

David Trabal, Hewlett Packard Enterprise
Noris Torres, Ciracet

- Meeting started at 10:45am with a presentation prepared by the department team focusing on 2016-2018 highlights, department needs, IE dashboard and relevant statistics, educational objectives (EO), and progress on major curriculum revision. Reference 1.
- Topic 1: 2016-2018 Highlights, presenter Betzabé Rodríguez
 - a. Dr. Rodríguez presented an economic analysis detailing how the recent increase in UPR registration costs and fees has impacted student finances. The funds from the Pell Grants are not longer sufficient to cover all students' needs.
 - b. Dr. Rodríguez shared the IE dashboard and indicated that there is concern on the low number of graduates in 2017 (only 60).
 - c. José Nieves asked for additional information about the percentage of IE graduates that completed the degree in 150% of the established time to complete degree, specifically years 2010 and 2011. Reference 1-Slide 21, meeting presentation.



- Topic 2: Educational Objectives (EO), presenter Dra. María Irizarry
 - a. Current educational objectives were presented and its importance for accreditation was emphasized.
 - b. A form to gather IAB members input on EO relevance was administered. The results will be shared with IAB members once the input from all members is gathered and summarized.

Topic 3: Curriculum revision, presenters Drs. Viviana Cesaní and Betzabé Rodríguez

- The new curriculum was shared with IAB members and the details on the proposed changes discussed by major subjects including: Math, Science, General Education, Engineering Fundamentals, and IE Core. Reference 2.
- Andy Brunot commented that since other engineering programs are eliminating Calculus III, the department should analyze the possibility of including only the topics needed from Calculus III in the new course Math for IEs and therefore, eliminate Calculus III from the IE curriculum.
- The proposed curriculum requires students to take Pre-calculus on their first semester, however this is not a reality for approximately 20 % of our incoming students (based on 2018 incoming class). Therefore, there was consensus among IAB members that the department should devote their efforts to significantly increase the number of students that are able to register in Calculus I at their second semester (at the latest). Hence, the IE department must develop a strategy in conjunction with the Math Department in order achieve the proposed objective.
- José Colón commented that the proposed new course in Chemistry (4 credits + lab) must include basic topics on molecular chemistry in order to address the need for such knowledge in the pharmaceutical industry. Betzabé Rodríguez agreed on sharing the chemistry syllabus with IAB member.
- Betzabé Rodríguez agreed on sharing physics courses syllabus to assess the relevance of the topics in the IE profession.
- Andy Brunot and José Nieves emphasized the need for conversational English as a necessary skill for students.
- There was consensus on the changes proposed on INME 4045, 4055 and 4056, in the sense that they should not be required but optional.
- There was consensus on the track scheme proposed for INGE courses.
- There was consensus on the reduction in credits on social and humanistic topics.
- There was consensus on the addition of one credit hour to ININ 4079-Capstone in order to start searching, defining, and working on project charters one semester prior execution. During this period students could also take the trainings required by most companies.
- When asked on changes in IE core courses, there was consensus on keeping most of them. The need for ININ 4009 was particularly emphasized.
- There was a discussion regarding ININ 4077 and IAB members agreed that should be



a professional elective. According to them, ergonomic assessment is rarely performed by IEs, it is mainly performed by EHS personnel. However, José Nieves argued that an engineer that is designing a workstation needs to know about ergonomics in order to reduce occupational risks.

- José Nieves expressed the need to improve student's supervision management skills.
- Topic 4: Open Discussion
 - a. The board recommended the design of one credit-hour courses on contemporary topics such as GMP's. An idea that surfaced was to have professionals from industry teaching short course modules that can count towards professional electives.
 - b. Board members were asked to provide recommendations on elective courses containing topics specifically related to their industry type.
 - c. José Nieves emphasized that our agendas should include a systematic effort on increasing department donations from alumni. Andy Brunot and José Nieves commit themselves to help in this effort.

The meeting concluded at 12:45 PM followed by lunch.

Supporting materials included:

1. Presentation: "IAB 2018 Meeting"
2. Proposed Curricular Revision Summary Table
3. Chemistry courses syllabus
4. Physics courses syllabus



**Questionnaire on the Review and Discussion of IE Program EO's
Meeting with the IE Program Industry Advisory Board
October 4, 2018**

Educational Objectives

The industrial engineering undergraduate program has four educational objectives. These are:

- Be known as assertive, ethical, and independent critical thinkers
- Make contributions to their organization based on experience that builds on their IE education
- Adapt to changing needs in their profession
- Achieve leadership roles in their organizations

Level of Importance for specific IE graduates attributes

We are interested in identifying the level of importance that your organization gives to the following attributes specially when referring to Industrial Engineers. The scale for the levels of importance is as follows:

Very important: attribute regularly needed to perform effectively IE functions and routinely applied in several tasks in our company.

Important: attribute needed to perform IE functions and applied in different tasks.

Not important: attribute rarely needed to perform IE functions and almost never applied in our company.

Objective	Very Important	Important	Not Important
Assertiveness			
Ethical conduct			
Independent critical thinker			
Ability to make contributions to your organization based on experience that builds on their IE education			
Ability to adapt to changing needs in their profession.			
Achieving leadership roles in your organization			
Being recognized as a leader (not necessarily in a management position)			

Other attributes important to your organization:

Name

Company



Summary of responses to the questionnaire on IE Educational Objectives:

Member	Assertiveness	Ethical conduct	Independent critical thinker	Ability to make contributions to your organization based on experience that builds on their IE education	Ability to adapt to changing needs in their profession.	Achieving leadership roles in your organization	Being recognized as a leader
Andy Brunot	VI	VI	VI	I	VI	NI	I
José Colón	VI	VI	VI	VI	I	NI	VI
Rafael Sanchez	VI	VI	I	VI	I	I	VI
José Nieves	I	VI	VI	VI	VI	I	I
Aixa Cintrón	VI	VI	VI	VI	I	I	VI
David Trabal	VI	VI	VI	VI	VI	VI	VI
Noris Torres	I	VI	VI	I	VI	NI	I
Total VI	5	7	6	5	4	1	4
Total I	2	0	1	2	3	3	3
Total NI	0	0	0	0	0	3	0

Member	Other qualities and objectives relevant to employers and the IE IAB
Andy Brunot	Empathy- ability to influence other and drive change
José Colón	Effective collaboration with other disciplines Actively support the management decision process
Rafael Sanchez	Effective communication Contributor in a team environment
José Nieves	Self-learner Able to communicate and adapt Time management - Ability to organize multiple tasks and responsibilities

