CETYS University

Achievements & Challenges 2010-2011 in Engineering

Ensenada Campus

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Achievements & Challenges 2010-11

SUMMARY

- Faculty Achievements.

  - Dr. Isaac Azuz applied and was selected to participate in the **Erasmus Mundus** program by teaching a class at a master's degree level in the Universidad Politécnica de Barcelona during autumn of 2010.
  - The Director of the School of Engineering from Ensenada, Carlos A. González, received the Doctoral degree in Engineering.
  - We started projects with the industry funded by CONACYT under the guidance of Socorro Lomelí.

- T & AL Program (Technology & Academic Linkage): XXII Eng-Expo, VII Working Days of Virtual Instrumentation, and & Mobility Program

  - The XXII Eng-Expo was carried out with the exhibition of student projects & achievements that was opened to the community; the jury was comprised of engineers from the entrepreneur and industrial sectors.

  - The VII Working Days of Virtual Instrumentation took place on behalf of the National Instruments Company and the Ensenada School of Engineering with the attendance of engineers from companies and research centers from the State of Baja California and Sonora.

  - The Mobility Program got extended to Engineering for high school students from the 4th semester in support to their CETYS High School vocational guidance, and students from the 6th semester of CBTIS.

- Engineering Registration

- Engineering registration is the **Permanent Challenge** that is looking to get support via the Academic Quality Consolidation, the Strengthening of Infrastructure, T & AL Program, and the Mobility Program.

- State wide collaboration: Specialization State classes.

  - State classes were taught on the simultaneous specialization areas among the three campuses for 5th semester Engineering students via Video conference and face-to-face on the host campus.

BREAKDOWN

Achievements

- State Classes

  - On August 2009, the Specialization Engineering classes started, and they were carried out through State Classes broadcasted via video conference to students simultaneously to the 3 campuses, and now they have consolidated on 2010.

  - These classes were intended for 5th and 7th semester students with visits to companies and research institutes at a state level.

- T & AL Program): XXII Eng-Expo and VII Working Days of Virtual Instrumentation

  - Achievement: anniversary number XXII of the Eng-EXPO was celebrated, and continuing with the openness to community and the evaluation by the entrepreneur and industrial personnel. Student participation is around 80% with the development of real problem solution projects (5th and 8th semester), and academic type projects (1st and 4th semester).

  - Achievement: we had for the 7th consecutive year the Working Days Virtual Instrumentation on behalf of the National Instruments Company (industrial sensors and measurement equipment), and the Ensenada School of Engineering.

- Such collaboration is the result of the ***T & AL Program*** (Technology & Academic Linkage), and the professor responsible for the area – Dr. Carlos Fuentes.

- We have the participation of regional and national speakers of companies such as SONY in such event, interactive workshops (some of them headed by Engineering students), and team sample.

- Attending the event are engineers from industries of the region of Baja California and Sonora, regional and national representatives of the companies, and Engineering faculty and students at a System level.

❖ Mobility Program

- Vocational Guidance Workshops for high school youth; they are presented with activities that Engineering carries out, so they can know them and determine if that is their vocation. Faculty participates by teaching topics such as Physics and Optics, LEGO Robots, Factory Simulation, and Statistics & Engineering.

- It was carried out with 4th semester students for the first time, so we could help them to choose the high school specialization that they would take on the 5th semester.

❖ Students linked with the community.

- Achievement: with the support of the Academic Linkage – and the ***T & AL Program*** – 100% from the number of students that have the academic age of carrying out internships are working.

- This placement is supervised by the Academic Linkage area to know the positive or negative observations that they have of the students working on their Internships.

- On the same token, faculty & student participation was coordinated in the Vocation-EXPO from the Linkage Committee School-Company, and Entrepreneur Conference of COPARMEX; students participated in both of them with application and academic projects.

Challenges

❖ Engineering Registration

- The Engineering registration is the **Permanent Challenge** that it is looking to find support via the Consolidation of Academic Quality, the Strengthening of Infrastructure, the Technology an Academic Linkage Program, and the Mobility Program.

❖ Industrial Engineering Accreditation

- On the 2011-2 semester, we would receive the visit of the evaluating team from the Accreditation Council of the Teaching of Engineering (CACEI) as an indispensable requirement for obtaining the 2012 accreditation.

- The challenge posed is concerning infrastructure. This point has been taken care of since 2008 by implementing the ***Laboratory Development Plan, 2010-2011 revised***, which up to date has an advancement of approximately 60%. We are working on having an extra classroom and to improve the Physics and Chemistry laboratory equipment, and the consolidation of an Industrial laboratory.

❖ Mobility Program

- At the same time that this is an achievement, it is also a challenge because the number of candidates to study an Engineering degree is less each time; even when the high school graduating population is higher.

- Part of the reason is because the offer of the Physics-mathematics within the city high schools is limited to public institutions, and only to some private ones (CETYS among them).

- The challenge lies on using the base of students that participate on the Mobility Program workshops, so that students from the 1st and 2nd year of high school could attend, and not only students from the last year of high school. With the

- purpose that at the time of deciding what specialization to take, they consider, if their high school offers it, the physics-mathematics area.

❖ Engineering Internationalization

- Internationalization within Engineering is a differentiating element for students; element that does not only includes exchange studies, but English classes and attendance to events in the U.S.

- The challenge is to widen the base offering of courses taught along with a more rapid increase of the handling of the English language on behalf of the students and faculty than the one we have had up to date.

- An element that has supported such challenge – on behalf of faculty – has been the state classes; having as a result an increase of student motivation to increase their level of English, and the close collaboration that we have had in the International Program area by fostering the exchange programs and /or the Double Diploma Programs.

❖ Entrepreneurial Nuance

- Just like internationalization, the Entrepreneurial Nuance is a key differentiating element for Engineering in Ensenada.

The challenge is to broaden the participant base in the different programs that are offered – Impulsa, International Economic Forum, and Programs from the Entrepreneur Sector – for generating a greater number of proposals.