

Electrical engineering education in Uruguay. Some experiences.

Authors: Gregory Randall, Alvaro Giusto.

In recent years, the electrical engineering department of the engineering school at Universidad de la Republica has introduced several changes in the curriculum of the electrical engineering career. The common aim of these experiences is to improve the preparation of the future engineers as active factors in the transformation of the Uruguayan society. The career, based in credits, allows the definition of a flexible curriculum within a general formation. Our graduates, with a common title, may work in electrical engineering fields such that power electrical systems, electronics and telecommunication. The final project has been modified in order to build up an integrative activity with some specific objectives. The students must solve an engineering problem working in a team, within a project management framework with restrictive limits of scope and time.

An obligatory professional internship of three months has been included in the curriculum. Two new activities specifically designed to stimulate creativity and collective work has been created. In "Taller de Proyecto" several teams composed by more than 4 students must solve a technical problem posed without an excessive level of definition and subject to budgetary, temporal and technical constraints. They are stimulated to cooperate at the inside of the team and to compete with the other teams. In the "Taller de Arte y Programacion" about 125 undergraduate students from electrical engineering, computer science, arts, music, architecture and other disciplines are put together for a quarter in an effort to approximate them to digital technology with an holistic vision. The students with such different backgrounds work together, develop a common language and work with digital refuse in order to put the knowledge on scene.

In this paper we present these experiences and we try to integrate them in a general conception of the electrical engineer education for this country and this time. The Uruguayan engineers must be active actors of social and economic change. They must be able to use the most modern technology to solve real problems of concern in a third world country like Uruguay.