Course Title:  Electronic Communications Systems   ELE 206       Date: August 2019

Course Team: Juan C. Luna.

Expected Learning Outcomes

- Understand the purpose of signal modulation methods.
- Explain the difference between analog and digital communication systems.
- Demonstrate understanding of concept difference between a wired and wireless communication system.
- Characterize fundamental parameters of communication systems like s/n ratio, db gain/loss, and propagation errors.

Assessment (How do or will students demonstrate achievement of each outcome? Please attach a copy of your assessment electronically.)

At the end of the Fall 2018 semester, the instructor administered a final ELE206 assessment exam. The assessment exam covers all course outcomes. The final grade is a composition of the final exam, homework assignments, and hands-on activities.

Validation (What methods have you used or will you use to validate your assessment?)

The course outcomes and assessment tool for Instrumentation and Process Control I (ELE 113) are consistent and aligned with recommendations from the following IEEE publications:

Merging Pedagogical Approaches: University of Glasgow-UESTC Joint Education Programme in Electronics and Electrical Engineering. K. Meehan et al.
Frontiers in Education Conference (FIE), 2014 IEEE. 978-1-4799-3922-0

Intelligent Performance Assessment of Students’ Laboratory Work in a Virtual Electronic Laboratory Environment. Achumba et al.
IEEE TRANSACTIONS ON LEARNING TECHNOLOGIES, VOL. 6, NO. 2, APRIL-JUNE 2013

Assessment of undergraduate electrical engineering laboratory studies. G. Carter et al.

The final grade comprises a combination of homework, lab activities, with several exams in between. A final assessment exam can determine the overall comprehension of the subject, although it will not measure other components typical of lab activities, like team player skills, hands-on expertise. The final assessment exam cannot measure homework effort and time.
management skills. Nevertheless, the final assessment exam can be an expected consequence of the effort put into the lab and homework activities.

Results (What do your assessment data show? If you have not yet assessed student achievement of your learning outcomes, when is assessment planned?)

As it was expected the final grade is highly correlated with completion of assignments, lab activities, quizzes and exams.

![Final Exam total ELE206/FA18](image)

**COMPARISONS TO PREVIOUS SEMESTERS:**

N/A

**Strengths & Weaknesses:**

The data is not conclusive since this course was taught only with two students

**Follow-up (How have you used or how will you use the data to improve student learning?)**

ELE206 has shown the current limitations of the communications lab. It promises to be a better great experience next time this course is offered. The textbook was adequate and student learning comprehension was outstanding.

**Budget Justification (What resources are necessary to improve student learning?)**

No resources needed.