NVCC COLLEGE-WIDE COURSE CONTENT SUMMARY

ETR 167 - LOGIC CIRCUITS & SYSTEMS (4 CR.)

COURSE DESCRIPTION

Introductory computer course covering Logic circuits, number systems, Boolean algebra and pulse switching circuits. Lecture 3 hours. Laboratory 3 hours. Total 6 hours per week.

GENERAL COURSE PURPOSE

ETR 167 is designed as a one semester, lecture and laboratory course teaching fundamentals of pulse, switching and digital circuit techniques.

ENTRY LEVEL COMPETENCIES

None

COURSE OBJECTIVES

As a result of the learning experiences provided in this course, the student will be able to:

  A.   know the principles of number systems and Boolean algebra as applied to the analysis and design of digital circuits
  B.   identify the fundamentals of logic circuits and logic families
  C.   identify the fundamental operations of pulse/switching and wave shaping circuits

MAJOR TOPICS TO BE INCLUDED

LECTURE

  A.   Number systems
  B.   Boolean algebra
  C.   Logic circuits: combinational and flip-flops
  D.   Logic families
  E.   Transient analysis
  F.   Linear & non linear wave shaping circuits
  G.   Multivibrators

LABORATORY

A.	Panel Box, TTL Gates	G.	RC Differentiator/Integrator
B.	Gate Equivalence	H.	Clippers/Clampers
C.	Combinational Logic Networks	I.	Function Generator
D.	Digital Multiplexer	J.	555 Timer
E.	Latches	K.	IC Monostable Multivibrator
F.	Flip-Flops		