CS 43305       ADVANCED DIGITAL DESIGN       3 Credit Hours

Contributor’s Name: Robert Walker
Other Instructors Consulted: Augustine Samba


Course Content (current catalog):
(Slashed with CS 53305) This course describes techniques in the design of digital systems. Topics covered include combinational and sequential logic, gate-level minimization, registers and counters, memory and programmable logic, hardware description languages, digital communication including serial and parallel and synchronous and asynchronous methods.

Prerequisites or co-requisites: Minimum C or better in CS 23001

Required, elective, or selected elective: Elective for both BS and BA

Course Learning Outcomes:
• TBD

Topics to be Covered (45-hour BDS content):
  3 Boolean Algebra and Logic Gates
  3 Gate Level Minimization
  3 Combinational Logic
  3 Synchronous Sequential Logic
  3 Registers and Counters
  3 Memory and Programmable Logic
  3 Fundamentals of Sequential Logic Design
  6 Logic Design with Verilog
  3 Design at the Register-Transfer Level
  15 Programming Standard ICs and FPGAs

Applicable ABET Student Outcomes (SOs): Analysis, Design, Programming

COMMENTS FOR CURRICULUM COMMITTEE
The textbook listed above is a newer edition of the textbook than is listed in the current Basic Data Sheet, but it was used by Professor Samba in his Fall 2017 Special Topics version of the
course. The list of topics above matches the current Basic Data Sheet, and is slightly more detailed than what is listed in Professor Samba’s Fall 2017 course.