

BMEN3370 - Digital Circuits

[BMEN 3370](#) Digital Circuits (3 semester credit hours) Digital circuit design, hardware structures, and hardware description language concepts that underlie the design of modern computer systems and their application to biomedical electronics. Topics include: internal data representation and arithmetic operations in a computer, Boolean logic, combinational logic circuits and sequential circuits. Design of arithmetic circuits, shifters and counters. Design and analysis of synchronous state machines. Hands-on laboratory experiments to design and analyze logic circuits using SSI, MSI and FPGAs. Use of Verilog to design and test circuits. Prerequisites: [MATH 2420](#) and ([PHYS 2126](#) and [PHYS 2326](#)). (3-0) Y