

COURSE DETAIL

DIGITAL LOGIC DESIGN

Country

Egypt

Host Institution

American University in Cairo

Program(s)

The American University in Cairo

UCEAP Course Level

Lower Division

UCEAP Subject Area(s)

Electrical Engineering Computer Science

UCEAP Course Number

21

UCEAP Course Suffix**UCEAP Official Title**

DIGITAL LOGIC DESIGN

UCEAP Transcript Title

DIGITAL LOGIC DESGN

UCEAP Quarter Units

4.50

UCEAP Semester Units

3.00

Course Description

This course covers the nature of digital logic and numbering systems. Topics include: Basic gates, Boolean algebra, Karnaugh maps, memory elements, latches, flip-flops, design of combinational and sequential circuits, integrated circuits and logic families, shift registers, counters, multiplexers, demultiplexers, decoders, encoders, and parity circuits, Number systems, 1's and 2's complements, arithmetic circuits, fixed-point and floating-point representations, memory types, design of circuits using ROMs and PLAs. The course involves exposure to logic design automation software and an introduction to FPGAs and HDL. Prerequisite: fundamentals of computing.

Language(s) of Instruction

English

Host Institution Course Number

ECNG 2101

Host Institution Course Title

DIGITAL LOGIC DESIGN

Host Institution Course Details

https://catalog.aucegypt.edu/preview_course.php?catoid=38&coid=90892&print

Host Institution Campus

Host Institution Faculty

Host Institution Degree

Host Institution Department

Electronics and Communications Engineering

Course Last Reviewed

2025-2026

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