

COURSE SYLLABUS

LAST REVIEW	Fall 2021
COURSE TITLE	Digital Electronics II
COURSE NUMBER	ELEC-0215
DIVISION	Math, Science, Business & Technology
DEPARTMENT	Electronics Engineering Technology
CIP CODE	15.0303
CREDIT HOURS	4
CONTACT HOURS/WEEK	Class: 3 Lab: 2
PREREQUISITES	ENGR-0115 Digital Electronics I
COREQUISITES	None
COURSE PLACEMENT	Students must meet the correct placement measure for this course. Information may be found at: https://www.kckcc.edu/admissions/information/mandatory-evaluation-placement.html

COURSE DESCRIPTION

This course is a continuation of Digital Electronics I. More complex digital logic circuits constructed from integrated circuits. Basic concepts of computer architecture and organization are covered. Emphasis is placed on logic circuit design and construction, fault-testing, and repair.

TEXTBOOKS

<http://kckccbookstore.com/>

METHODS OF INSTRUCTION

A variety of instructional methods may be used depending on content area. These include but are not limited to: lecture, multimedia, cooperative/collaborative learning, labs and demonstrations, projects and presentations, speeches, debates, and panels, conferencing, performances, and learning experiences outside the classroom. Methodology will be selected to best meet student needs.

COURSE OUTLINE

- I. Integrated Circuit Logic Families
- II. Memory Devices
- III. Computer Mathematics
- IV. Digital Computer Organization
- V. Data Handling Logic Circuits
- VI. Interfacing with the Analog World
- VII. System Analysis and Troubleshooting

COURSE LEARNING OUTCOMES AND COMPETENCIES

Upon successful completion of this course, the student will:

- A. Construct and troubleshoot digital systems containing TTL and CMOS integrated circuits.
- A. Analyze and use decoders, encoders, multiplexers and demultiplexers.
- B. Analyze and use digital-to-analog and analog-to-digital converters.
- C. Identify the characteristics of various memory devices.
- D. Draw the block diagram of a basic computer.
- E. Write and assemble programs for a basic computer.
- F. State the cycle-by-cycle operation of a simple computer.
- G. Troubleshoot and find faults in digital circuits and systems.

ASSESSMENT OF COURSE LEARNING OUTCOMES AND COMPETENCIES

Assessment methods may include, but are not limited to, the following: Homework, Assignments, Quizzes, Class Participation, Chapter Tests, and Final Exam. The grading scale and the process for calculating the course grades are to be determined by the individual instructors. This information will be included in each instructor's syllabus.

COLLEGE POLICIES AND PROCEDURES

Student Handbook

<https://www.kckcc.edu/files/docs/student-resources/student-handbook-and-code-of-conduct.pdf>

College Catalog

<https://www.kckcc.edu/academics/catalog/index.html>

College Policies and Statements

<https://www.kckcc.edu/about/policies-statements/index.html>

Accessibility and Accommodations

<https://www.kckcc.edu/academics/resources/student-accessibility-support-services/index.html>.