

# Digital Electronics

**Local Course #:** 8787

**State Course ID:** 13037600

## **Course Description:**

Step into the future with Digital Electronics, a dynamic and hands-on course where innovation meets real-world engineering! Whether you're passionate about technology, problem-solving, or simply love to tinker, this course is your gateway into the fascinating world of electronic design and automation.

Digital Electronics introduces students to the fundamental principles of electrical engineering and digital logic. You'll learn how to design, build, and troubleshoot complex electronic circuits using industry-standard tools and software.

Explore essential concepts such as:

Boolean algebra and logic gates

Combinational and sequential logic

Programmable logic devices (PLDs)

Timing diagrams and circuit analysis

Schematic capture and circuit simulation using Multisim and other software

Through engaging, project-based learning, you'll apply STEM principles to solve real-world challenges like creating functioning digital systems to programming field-programmable gate arrays (FPGAs). This course also emphasizes critical thinking, collaboration, and technical communication, preparing you for careers in engineering, robotics, computer science, and beyond.

No prior electronics experience is needed—just curiosity, creativity, and a willingness to learn. Whether you're looking to pursue engineering in college or just want to build awesome stuff, Digital Electronics is where your journey begins.

## **Link to TEKS:**

[https://texas-sos.appianportalsgov.com/rules-and-meetings?locale=en\\_US&interface=VIEW\\_TAC\\_SUMMARY&queryAsDate=08%2F08%2F2025&recordId=225554](https://texas-sos.appianportalsgov.com/rules-and-meetings?locale=en_US&interface=VIEW_TAC_SUMMARY&queryAsDate=08%2F08%2F2025&recordId=225554)

## **First 9 Weeks Major Topics:**

Logic Gates and Combinational Logic

## **Second 9 Weeks Major Topics:**

Sequential Logic

## **Third 9 Weeks Major Topics:**

Programmable Logic Devices

**Fourth 9 Weeks Major Topics:**

Microcontrollers