

Course Objectives/Course Outline
Spokane Community College

Course Title: DIGITAL CONCEPTS

Prefix and Course Number: ELECT 211

Course Learning Outcomes:

By the end of this course, a student should be able to:

- Know accepted personnel and equipment safety procedures and terminology
- Know digital component terminology
- Understand the general theory of digital component hardware
- Be able to identify the common digital components
- Understand technology appropriate troubleshooting techniques and procedures
- Have the basic knowledge applicable to troubleshooting and repair of computer and other digital devices and systems

COURSE OUTLINE:

- I. Course Overview
 - A. Professionalism
 - B. Tool and Book List
 - C. Course Outline
 - D. Grading
- II. Personal Safety
 - A. Electrical Shock
 - B. Eye Protection
- III. Equipment Protection
 - A. Static Electricity
 - B. Liquids
 - C. Cables
- IV. Numbering Systems
 - A. Binary
 - B. Octal
 - C. Hex
 - D. Coding Systems
- V. Digital Devices
 - A. Gates
 - B. Flip Flops
 - C. Counters
 - D. Programmable Logic Array
 - E. PGA
- VI. Digital Circuits
 - A. Memory Cells
 - B. Memory Arrays
 - C. Shift Registers
 - D. Interface ICs/ASICs

- E. Multiplexers
- VII. Microprocessors
 - A. Basic Internal Structure
 - B. Addressing
 - C. Microprocessor Technology
 - D. Future Technologies
- VIII. Microprocessor Applications
 - A. General
 - B. Embedded
 - C. Arrays/DSP