

Pittsburg State University
Department of Engineering Technology
Electronics ET Program
Course Intended for Partial Fulfillment of the Pitt State Pathway Curriculum
(Prepared by: Clark D. Shaver, Feb 2019)

COURSE TITLE: EET 247. Computer Programming for Electronic Systems

COURSE SCHEDULE: **Lecture:** TTH 1:00-1:50pm W213
 Lab: Tuesday 2:00-3:50pm W213

INSTRUCTOR: Clark Shaver Office : Room # 224f
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COURSE DESCRIPTION: EET 247 – Computer Programming for Electronic Systems:
3 hours. (2 hours lecture, 2 hours laboratory). 3 hours. (2 hours lecture, 2 hours laboratory).
Introduction to computer programming with a high-level language including, subroutines, arrays, functions, etc. Programming applied to technology including industrial applications and embedded processors. Prerequisites: MATH 113 College Algebra or MATH 110 College Algebra with Review or MATH 126 Pre-Calculus.

TEXTBOOK/MATERIALS REQUIRED:

- Hanley & Koffman, Problem Solving and Program Design in C, sixth ed.
- Computer Access

COURSE OBJECTIVES:

- Understand fundamentals of programming such as variables, constants, functions, etc.
- Demonstrate understanding of memory format of data types
- Demonstrate understanding of logical and bitwise operators
- Demonstrate understanding of program flow structures (if-then, switch/case, for-loop, while-loop, etc.).
- Develop computer programs to solve specified engineering technology problems
- Pitt State Pathway Essential Studies Element:
 - **Human Systems within a Global Context.**
 - Students will *describe human organizational systems using a variety of disciplinary and interdisciplinary perspectives*. For a detailed description, see the [Pitt State Pathway documentation](#): Level of Student Learning = Benchmark
 - **Methods of Assessment for this PSP Essential Studies Element:**
 - Students will *list* of the steps of the computer programming design process
 - Students will *describe* their role in team based engineering design
 - Students will *describe* programming practices that help ensure good interaction between human and computer-based systems
 - **Tools used to Assess Student Learning:**
 - Students will describe human organizational systems via in written essay form
 - A rubric will be used to asses this essay and the level of student learning.

COURSE TOPICS:

1. Binary, hexadecimal, two's complement, floating point encoding
2. Functions and Input/Output operations
3. Selection Structures (If-Then, Select/Case, etc.)
4. Repetition Structures (Do-, While-, For-loops, etc.)
5. User Defined Functions
6. Arrays and Matrices
7. Data Structures
8. Pointers
9. Introduction to SQL

| Week # & Title | Chapter | Date | Lab Set |
|--|---------|--------|---------|
| 1 – Introduction & Overview of Computers | 1 | 15-Jan | 1 |
| 2 – Overview of C | 2 | 22-Jan | 1 |
| 3 – Overview of C (continued), functions | 2 | 29-Jan | 1 |
| 4 – If and Switch statements | 3 | 5-Feb | 1 |
| 5 – Review | 4 | 12-Feb | 1 |
| 6 – EXAM #1 | | 19-Feb | |
| 7 – Repetition and Loop statements | 5 | 26-Feb | 2 |
| 8 – Pointers | 6 | 5-Mar | 3 |
| – SPRING BREAK (No Meeting) | 7 | 12-Mar | 3 |
| 9 – Arrays | | 19-Mar | |
| 10 – Strings | 8 | 26-Mar | 3 |
| 11 – Recursion, Exam Review | 9 | 2-Apr | 3 |
| 12 – EXAM #2 | | 9-Apr | |
| 13 – Struct, Union, File I/O, Databases | 10&11 | 16-Apr | 3 |
| 14 – SQL | | 23-Apr | 3 |
| 15 – Review | | 30-Apr | 4 |
| 16 – FINAL EXAM | | 7-May | |

GRADING

OVERVIEW:

| | | | |
|-------------|-----|---------|----|
| Labs: | 40% | 90-100% | -A |
| Exam 1: | 20% | 89-80% | -B |
| Exam 2: | 20% | 79-70% | -C |
| Final Exam: | 20% | 69-60% | -D |
| | | <59% | -F |

Technology Policy: Your technology problems are not my problems. “My computer wouldn’t work” or other such statements will not qualify for an acceptable excuse for a late project.

Late Policy: Late assignments will be deducted 25% if it is late less than one week. If the assignment is more than one week late, 60% will be deducted from the score. No late work will be accepted during or after dead week. I reserve the right to extend due dates for the entire class as deemed necessary. **There will be no makeup quizzes**, however, I generally drop 1 or more quizzes depending on the amount of quizzes taken throughout a semester.

PSU SYLLABUS SUPPLEMENT

<http://www.pittstate.edu/dotAsset/951abb38-06ee-4727-9356-fcddf1bf497f.pdf>