

Bossier Parish Community College
Master Syllabus

Course Prefix and Number: TEED 202

Credit Hours: 3-3-0

Course Title: Intro to Microprocessors

Course Prerequisite: TEED 102 and OR Instructor Permission

Textbook(s): Robot Shield with Arduino, Parallax, Inc., Product ID: 32335

Course Description: An introduction to microprocessors with PBASIC. Each student will build and program their own basic stamp microcontroller based robot to follow light with photo resistors, use mechanical and infrared sensors to perform tasks.

Learning Outcomes:

At the end of the course, the student will:

- A. demonstrate a working knowledge of the major functional blocks and communications schemes of a microprocessor, and understand different methods of program and flow;
- B. analyze and implement system coding (programming) to perform math operations and logical processes such as automatic control (traffic signals) and data analysis and units conversions; and
- C. construct and program movement, sensing, input, and output of a Microcontroller.

To achieve the learning outcomes, the student will or will be able to:

(The letter designations at the end of each statement refer to the learning outcome(s).)

1. describe a microprocessor in terms of its data-word length, its memory-addressing capability, and its instruction speed and uses; (A)
2. convert among decimal, binary, hexadecimal, and octal number systems; (A, B)
3. perform addition, subtraction, multiplication, and division on binary numbers; (A, B)
4. identify the major subsection of a microprocessor; (A)
5. explain and use logical operators – AND, OR, XOR; (A)
6. explain the major characteristics BASIC Stamp families of microprocessors; (A, B)
7. explain sequential Flow & Looping; (A)
8. explain Pseude-Code & Flowcharts; (A, B)
9. construct LED, LCD 7-segment, pushbuttons, and speaker circuits; (A, B, C)
10. describe the various types of memory devices that are used in microprocessor systems; (A)
11. connect and program a servo motor (B)
12. control position and navigation; (A) and
13. state the steps involved in the programming process. (A)

Course Requirements: Complete all homework assignments, lecture tests and final exam.

Course Grading Scale:

90 – 100 = A

80 – 89 = B

70 – 79 = C

60 – 69 = D

0 – 59 = F

Attendance Policy: The college attendance policy is available at

<http://www.bpcc.edu/catalog/current/academicpolicies.html>

Course Fees: This course is accompanied with an additional fee for supplemental materials.

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