

WEST VIRGINIA UNIVERSITY
College of Engineering and Mineral Resources
Department of Computer Science and Electrical Engineering
CpE 313 Microcomputer Structure and Interfacing Lab
Spring 2020

- **Instructor: Fares ElAmine**
- **Email: fnelamine@mix.wvu.edu**
- **Lab Location: ESB G22**
- **Lab Times: Wednesdays 6:30 PM – 9:20 PM**
- **Office Location: AERB242**

Course Website: www.ecampus.wvu.edu

Course Description:

CPE 313, Microcomputer Structure/Interface Lab, is the laboratory supplement for CPE 312. Experiments of this course involve programming a HCS12 microprocessor using the C programming language. Students will work in small groups to complete the experiments, and will turn in all work on an individual basis. Students will be expected to maintain a lab notebook and turn-in lab assignments each week. The experiments are designed to highlight several important functions of the HSC12, such as I/O, ADC, PWM and internal timers. By the completion of this course, students should have an in depth understanding of the concepts involved with interfacing various components to a microcontroller.

Co-Requisite: CpE 312: Microcomputer Structures and Interfacing

Attendance:

Students are expected to attend every laboratory session. **Not attending a lab session will result in a grade of zero for that lab, unless an acceptable excuse is presented at least an hour before the lab session.** It is the student's responsibility to contact the instructor regarding scheduling a make-up lab. Make-up labs will be handled on an individual basis at the instructor's discretion.

Tardiness: Students arriving after the listed lab start time are solely responsible for obtaining the missed information. It is not the instructor's responsibility to explain the material that was missed during the tardiness. However, if a student shows up over an hour lab late to lab they will not be permitted to conduct the lab experiment unless acceptable notification of tardiness was communicated prior to this date. If the course has any other items at the beginning of the lab that is missed (i.e. quiz), the student will receive a zero for said missed item.

Groups:

Students will be working in groups of 2, with the exception of a single group of 3 if there is an odd number of students. Students must work with a **different** lab partner each week. After each lab exercise, the students must submit a peer review of their group mates.

Design Demonstration:

During class, each group will be required to write the code that will make up the experiment. Part of your overall grade will be based upon your in-lab competency. This grade will still be INDIVIDUAL. If you are active in performing the experiment and understand the operations of it, you will receive the highest credit. Do not be discouraged from asking for help during the lab if you need it. However, this is meant to encourage you to debug the code and to otherwise attempt to determine where the problem might lie before requesting help. It is important that all lab participants understand the operations of the experiment as well as the fundamental principles at work. Upon a successful demonstration of the experiment, the instructor will sign his name to confirm that the demonstration was implemented correctly. It is the students' responsibility to not leave the lab environment before the instructor signs off on the demonstration to make sure they receive full points.

Lab Reports:

A Laboratory report will be required after the completion of each laboratory assignment. **A lab report cannot be submitted if the lab was not attended.** Every student must submit an **individual** report by **midnight before the day of the next lab session on eCampus**. E-mailed lab reports will not be accepted. Members of the same group may share the design but they must have their own, individual answers and conclusions, including any answers to pre/post lab questions. Reports will always be due the day of the next lab session. A **10% penalty** will be applied for **each day** that the report is late. Copying lab reports will not be tolerated and will result in a zero grade as well as be reported to the office of student conduct.

Lab Portfolio:

A portfolio will be used to keep notes for each lab, as well as contain the handout & submitted report. Each student must keep their own notes. This will be turned in electronically at the end of the semester.

Lab Station Presentation:

The lab instructor holds the right to deduct points from any groups' grade each week if their lab station is left in disarray at the conclusion of each lab. The cleanliness of the lab is the responsibility of all who use it.

Grading Policy:**Final Grade**

1. Lab Demonstration: 50%
 - a. 10 labs each worth equal points
2. Micromouse Project: 30%
3. Peer Review: 10%
4. Lab Portfolio: 10%

Grading will be based on the standard 100 point scale:

- A (100-90)
- B (89-80)
- C (79-70)
- D (69-60)
- F (59-0)

Academic Integrity and Dishonesty: Writing that is not in your own words or submitting someone else's work as their own will result in a grade of 0 for the assignment. This is including but not limited to lab report, lab demonstration code, final project, etc. And specifically for the final project report, if the submission was plagiarized then the whole final project grade (30% of your overall grade) will result in a 0. Take note that eCampus automatically screens all submissions for plagiarism.

The integrity of the classes offered by any academic institution solidifies the foundation of its mission and cannot be sacrificed to expediency, ignorance, or blatant fraud. Therefore, I will enforce rigorous standards of academic integrity in all aspects and assignments of this course. For the detailed policy of West Virginia University regarding the definitions of acts considered to fall under academic dishonesty and possible ensuing sanctions, please see the West Virginia University Academic Catalog at:

<http://catalog.wvu.edu/undergraduate/coursecredittermsclassification/#academicintegritytext>

Should you have any questions about possibly improper research citations or references, or any other activity that may be interpreted as an attempt at academic dishonesty, please see me before the assignment is due to discuss the matter.

Incomplete Grades: Students who want to be considered for an Incomplete must apply to their instructor prior to the end of the term. If the instructor agrees, the instructor and the student must negotiate the conditions under which the grade of I will be changed to a letter grade and sign a contract. The date to submit the incomplete work should not be set beyond the last day of class of the following semester. If the student does not complete the terms of the contract then the instructor should submit a grade of F. All incomplete contracts must be filed with the department and Dean's Office. See the policy at:

<http://catalog.wvu.edu/undergraduate/enrollmentandregistration/#gradestext>

Adverse Weather Commitment: In the event of inclement or threatening weather, everyone should use his or her best judgment regarding travel to and from campus. Safety should be the main concern. If you cannot get to class because of adverse weather conditions, you should contact me as soon as possible. Similarly, if I am unable to reach our class location, I will notify you of any cancellation or change as soon as possible using MIX/Gmail/eCampus to prevent you from embarking on any unnecessary travel. If you cannot get to class because of weather conditions, I will make allowances relative to required attendance policies, as well as any scheduled tests, quizzes, or other assessments.

Inclusivity Statement:

The West Virginia University community is committed to creating and fostering a positive learning and working environment based on open communication, mutual respect, and inclusion.

Accessibility Statement

If you are a person with a disability and anticipate needing any type of accommodation in order to participate in this class, please advise me and make appropriate arrangements with the [Office of Accessibility Services](#) (304-293-6700).

Sale of Course Materials

All course materials, including lectures, class notes, quizzes, exams, handouts, presentations, and other materials provided to students for this course are protected intellectual property. As such, the unauthorized purchase or sale of these materials may result in disciplinary sanctions under the Campus Student Code.

Student Evaluation of Instruction

Effective teaching is a primary mission of West Virginia University. Student evaluation of instruction provides the university and the instructor with feedback about your experiences in the course for review and course improvement. Your participation in the evaluation of course instruction is both strongly encouraged and highly valued. Results are strictly confidential, anonymous, and not available to the instructor until after final grades are released by Admissions and Records. Information about how you can complete this evaluation will be provided later.