| Hudson County Community College |
| SCIENCE, TECHNOLOGY, ENGINEERING & MATH DIVISION |

EET-229 Syllabus
Microprocessor/Microcontrollers Systems Design
CREDITS: 4

Prerequisite: EET 223 Integrated Circuits in Digital Systems

Text: HCS12/9S12: An Introduction To Software and Hardware Interfacing.
Han-Way Huang. Delmar Cengage Learning
ISBN-13: 978-1-435-42742-6

Adjunct Instructor:
Email Address:

Office Hours:

Course Objectives: To study Microprocessors, microcontrollers, embedded systems and Interfacing techniques.

Attendance policy: Attendance is mandatory at lectures and laboratory sessions. Material covered in missed classes is the responsibility of the students. A failing grade in the course results after 3 absences or more.

Homework: Problems related to covered topics are assigned on a regular basis. Selected problems will be discussed in class. Laboratory reports are due the following week after completion of the current experiment.

Grading Policy: There will be 3 exams (including the final exam) counting for 60% towards the course grade. The remaining 40% of the final grade consist of Lab reports (30%), class participation and homework (10%).

Grading range:
92-100 A
88-91 A-
85-87 B+
82-84 B
79-81 B-
77-79 C+
74-76 C
70-73 C-
65-69 D+
60-64 D
Below 60 F

Course Outline:

Week	Topic
1	**Introduction to the HCS12 Microcontroller**
2	HCS12 CPU Registers
3	HCS12 Addressing Modes
4	HCS12 Instructions
4	Embedded Systems
5	**HCS12 Assembly Programming**
6	Assembly Language Program Structure
6	Assembler Directives
7	Writing Programs to do Arithmetic
8	Program Loops
9	Shift and Rotate Instructions
9	Boolean Logic Instructions
9	The Multiply and Accumulate instruction
10	**Software Development Tools**
10	HCS12 Demo and Evaluation Boards
11	The D-Bug12 Monitor
12	Using a Demo Board with the D-Bug12 Monitor
12	Assembly Program Debugging
13	**Parallel Ports**
13	I/O Addressing
14	Overview of HCS12 Parallel Ports
14	Interfacing with simple input and output devices
15	**Final Exam**

Test 1 and Midterm (test 2) should be scheduled around week 6 and 10 respectively

Laboratory Exercises:

Week	Laboratory Topic
	Chapter 3 Lab Exercises p-123 - 124
10	Lab L3.7
10	Lab L3.8
11	Lab L3.9
11	Lab L3.9
	Chapter 7 Lab Exercises p-325-326
12	Lab L7.1
13	Lab L7.2
14	Lab L7.3

Campus Email Policy
Mandatory Use of HCCC Email Address: Members of the HCCC community are required to check their official HCCC email address in order to stay current with College and course communications. All College business communication between faculty, students, and staff must be sent via an official HCCC email address. If an employee or student elects to forward or link his/her HCCC email to a separate and private account, that individual remains responsible for all material transmitted to that account. Employees of HCCC shall not be responsible for any material that remains undelivered, due to defects in the private non-HCCC accounts. Failure in the operations of private email accounts shall not be cause for excuse from communications between the student and the employee. Students that encounter difficulty with HCCC email should view the FAQ's section on the Portal.

Disability Support Statement:
Students with disabilities who believe that they might need accommodations in this class are encouraged to contact Disabilities Support Services at (201) 360-4157, as soon as possible to better ensure that such accommodations are implemented in a timely fashion. All disabilities must be documented by a qualified professional such as a Physician, Licensed Learning Disabilities Teacher Consultant (LDTC), Psychiatrist, Psychologist, Psychiatric Nurse, Licensed Social Worker or Licensed Professional Counselor, who is qualified to assess the disability that the student claims to have and make recommendations on accommodations for the student. All information provided to the Disability Support Services Program will be confidential between the program, professors involved with the student, and individual student.

Academic Integrity Policy:
Academic integrity is central to the pursuit of education. For students at HCCC, this means maintaining the highest ethical standards in completing their academic work. In doing so, students earn college credits by their honest efforts. When they are awarded a certificate or degree, they have attained a goal representing genuine achievement and can reflect with pride on their accomplishment. This is what gives college education its essential value. Violations of the principle of academic integrity include:

- Cheating on exams.
- Reporting false research data or experimental results.
- Allowing other students to copy one's work to submit to instructors.
- Communicating the contents of an exam to other students who will be taking the same test.
- Submitting the same project in more than one course, without discussing this first with instructors.
- Submitting plagiarized work. Plagiarism is the use of another writer's words or ideas without properly crediting that person. This unacknowledged use may be from published books or articles, the Internet, or another student's work.

When students act dishonestly in meeting their course requirements, they lower the value of education for all students. Students who violate the college's policy on academic integrity are subject to failing grades on exams or projects, or for the entire course. Serious cases may be reported to a division dean or director for further disciplinary action, including suspension or dismissal from HCCC.

Detailed information on the College's Academic Integrity policy may be found in the *HCCC Student Handbook*. The handbook also contains useful information for students on completing research projects and avoiding plagiarism.