CASPER COLLEGE COURSE SYLLABUS

ELTR-1770, 01
MICROPROCESSOR FUNDAMENTALS

Semester/Year: Spring 2016

Lecture Hours: 3 | Lab Hours: 3 | Credit Hours: 4.5

Class Time: Lecture: 10-11:15 AM Lab: 1-3:50 PM
   Days: Lecture: M, W;
       Lab: M, W
   Room: GW 207

Instructor’s Name: David Arndt

Instructor's Contact Information:
Office: GW 116E
Office Phone: 307-268-2521
Email: darndt@caspercollege.edu

Office Hours: Office Hours:
   M, W 9-9:50 AM
   M, W 12-12:50 PM
   T 11-11:50 AM

Course Description:

This course will cover Intel microprocessors, their architecture, their language, and their capabilities. Students will have an opportunity to work with those that are most commonly used in industry. Students will also learn to design and write programs using C programming language.

Statement of Prerequisites:

None

Goal: Understand how a computer is constructed and programmed.

Outcomes:

Upon completion of this course, the student will:
1. Write programs in C programming language.
2. Understand the architecture of Intel 8088 and Pentium CPU’s, and how they are interfaced with peripheral devices.

**Objectives:**

The student will:
1. Design and write programs using C programming language.
2. Make use of sub-routines in the programs required for lab experiments.
3. Demonstrate knowledge CPU architecture of the Intel 8088 and Pentium microprocessors.
4. Demonstrate an understanding of the decoding systems used in microcomputers.
5. Demonstrate an understanding of the support IC’s used with the selected CPU’s.
6. Demonstrate knowledge of the memory, memory expansion and I/O porting that is used in microcomputers.

**Methodology:**

This course is structured with 3 hours of lecture and 3 hours of laboratory per week. During the lecture the architecture of CPU’s, peripheral devices, and interfacing techniques will be discussed. During the lab, programming using INTEL assembly language and building circuits on proto boards will be stressed. Students will be expected to complete eight laboratory experiments.

**Evaluation Criteria:**

The final grade will be composed of 50% for individual tests, 25% for class assignments, and 25% for laboratory experiments for a total of 100%. Tests, assignments, and Labs are graded on a 100 point system. Attendance and participation are mandatory.

**Grading System:**

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<tr>
<th>Component</th>
<th>Percentage</th>
<th>Points</th>
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<tbody>
<tr>
<td>Test Average</td>
<td>50%</td>
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<td>Assignment Average</td>
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<td>Lab Reports Average</td>
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<td><strong>TOTAL</strong></td>
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**Grades:**

- 400-360 points = A
- 359-320 points = B
- 319-280 points = C
- 279-240 points = D
- 239-0 points = F

Casper College may collect samples of student work demonstrating achievement of the above outcomes. Any personally identifying information will be removed from student work.
**Required Text, Readings, and Materials:**

*Intel Microprocessors; Architecture, Programming, and Interfacing:* by Barry B. Brey

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**Class Policies: Last Date to Change to Audit Status or to Withdraw with a W Grade:**

The Friday of the ninth week of class.

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**Student Rights and Responsibilities:** Please refer to the Casper College Student Conduct and Judicial Code for information concerning your rights and responsibilities as a Casper College Student.

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**Chain of Command:** If you have any problems with this class, you should first contact the instructor to attempt to solve the problem. If you are not satisfied with the solution offered by the instructor, you should then take the matter through the appropriate chain of command starting with the Department Head/Program Director, the Dean, and lastly the Vice President for Academic Affairs.

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**Academic Dishonesty:** (Cheating & Plagiarism) Casper College demands intellectual honesty. Proven plagiarism or any form of dishonesty associated with the academic process can result in the offender failing the course in which the offense was committed or expulsion from school. See the Casper College Student Code of Conduct for more information on this topic.

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**Official Means of Communication:** Casper College faculty and staff will employ the student's assigned Casper College email account as a primary method of communication. Students are responsible to check their account regularly. This is also, where you will find course evaluation links during course evaluation periods.

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**ADA Accommodations Policy:** If you need academic accommodations because of a disability, please inform me as soon as possible. See me privately after class, or during my office hours. To request academic accommodations, students must first consult with the college’s Disability Services Counselor located in the Gateway Building, Room 344, (307) 268-2557, bheuer@caspercollege.edu. The Disability Services Counselor is responsible for reviewing documentation provided by students requesting accommodations, determining eligibility for accommodations, and helping students request and use appropriate accommodations.

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**SAFETY:**

Personal and equipment safety standards will be strictly enforced. *It is the individual's responsibility to develop a safe work attitude.*

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**Calendar or schedule indicating course content**
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<tr>
<th>Tentative Course Outline</th>
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**FINAL TEST AS SCHEDULED**