CAMOSUN COLLEGE
School of Trades and Technology
Computer Science Department

COMP 183
Introduction to Computer Architecture
Quarter 2, 2015

COURSE OUTLINE

The calendar description is available on the web @ http://camosun.ca/learn/calendar/current/web/comp.html#COMP183

⌖ *Please note: This outline will not be kept indefinitely. It is recommended students keep this outline for their records, especially to assist in transfer credit to post-secondary institutions.*

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1. Instructor Information

(a) Instructor	Neil Bateman		
(b) Office hours	Monday 10h30 to 12h20		
(c) Location	TEC 246		
(d) Phone	TBA	**Alternative:**	
(e) E-mail	batemann@camosun.bc.ca		
(f) Website	http://hal.cs.camosun.bc.ca/~batemann/		

2. Intended Learning Outcomes

Students completing this course will be able to:

- Describe an elementary model of computer components (such as processor, memory, I/O systems) and how they interact;
- Understand the basic electronic components which make up the building-blocks of CPUs, (e.g. adders, multiplexers, and decoders);
- Describe CPU types and their ramifications;
- Describe contemporary techniques for improving scalar execution speed, (e.g. pipelines, cache memory);
- Describe various computer architectures from a software viewpoint;
- Describe compiler translation to low-level languages, (e.g. subprogram call linkages, optimization, register usage);
- Read, write, and modify C language and assembly language programs;
- Use built-in data types, (e.g. integer, real, Boolean);
- As well as use system calls.

3. Required Materials

(a) Texts

Structured Computer Organization
Andrew S. Tanenbaum, Prentice Hall, Sixth edition.

(b) Other

SSH access to deepblue.cs.camosun.bc.ca
A working account on the D2L online learning management system

4. Course Content and Schedule

Classes will consist of 4 hours of lecture and one hour of lab time weekly.

Students are also expected to allot approximately 5 hours of out-of-class time weekly to the course.

Reading the text is not required, but HIGHLY recommended.

In weeks 1 through 5 we will begin working with the CRAPS virtual processor and it's assembly programming language CHASM.

We will also introduce the topics of;

- Structured Computer Organization
- Processors
- Busses

Our midterm exam will be tentatively scheduled for Thursday February 5th. It will be 50 minutes in duration and occur during normal class hours.

In weeks 6 through 10 we will introduce and examine the topics of:

- Memory and Error Correction
- I/O and interrupts
- Digital Logic
- Microarchitecture and performance

We will also take an introductory look into the C programming language.

Marks, labs, notes, and assignments will be posted via the D2L system. Assignments and Lab submissions will also be collected through the D2L system as needed.

The final exam will be 110 minutes in duration, and will be cumulative. Examination times will be posted by the college.

**** PLEASE NOTE ****

You **must pass the final exam** to pass the course.

All Labs are to be demonstrated by the end of your scheduled lab period in the week published for each lab. No exceptions.

You are responsible for verifying and confirming with your instructor that you have successfully demonstrated each of your labs by the due date of the lab. In the event of any discrepancy, the instructor reserves the right to have you (re)demonstrate your labs.

5. Basis of Student Assessment (Weighting)

(a) Assignments

Labs (6 in total): 40%

(b) Quizzes

None

(c) Exams

Midterm exam: 25%
Final exam: 30%

(d) Other (e.g. Project, Attendance, Group Work)

Discretionary marks for attendance and group and class participation: 5%

6. Grading System

(If any changes are made to this part, then the Approved Course description must also be changed and sent through the approval process.)
(Mark with "X" in box below to show appropriate approved grading system – see last page of this template.)

[X] Standard Grading System (GPA)

[ ] Competency Based Grading System

7. Recommended Materials or Services to Assist Students to Succeed Throughout the Course

High-speed home Internet connection

SSH client for personal (home) computer

Mozilla Firefox / Safari / Google Chrome web browser for personal (home) computer

LEARNING SUPPORT AND SERVICES FOR STUDENTS

There are a variety of services available for students to assist them throughout their learning. This information is available in the College Calendar, Student Services or the College web site at http://www.camosun.bc.ca

STUDENT CONDUCT POLICY

There is a Student Conduct Policy. It is the student's responsibility to become familiar with the content of this policy. The policy is available in each School Administration Office, Registration, and on the College web site in the Policy Section.
http://www.camosun.bc.ca/policies/policies.html

A. GRADING SYSTEMS *http://www.camosun.bc.ca/policies/policies.php*

The following two grading systems are used at Camosun College:

1. Standard Grading System (GPA)

Percentage	Grade	Description	Grade Point Equivalency
90-100	A+		9
85-89	A		8
80-84	A-		7
77-79	B+		6
73-76	B		5
70-72	B-		4
65-69	C+		3
60-64	C		2
50-59	D		1
0-49	F	Minimum level has not been achieved.	0

2. Competency Based Grading System (Non GPA)

This grading system is based on satisfactory acquisition of defined skills or successful completion of the course learning outcomes

Grade	Description
COM	The student has met the goals, criteria, or competencies established for this course, practicum or field placement.
DST	The student has met and exceeded, above and beyond expectation, the goals, criteria, or competencies established for this course, practicum or field placement.
NC	The student has not met the goals, criteria or competencies established for this course, practicum or field placement.

B. Temporary Grades

Temporary grades are assigned for specific circumstances and will convert to a final grade according to the grading scheme being used in the course. See Grading Policy at http://www.camosun.bc.ca/policies/E-1.5.pdf for information on conversion to final grades, and for additional information on student record and transcript notations.

Temporary Grade	Description
I	*Incomplete*: A temporary grade assigned when the requirements of a course have not yet been completed due to hardship or extenuating circumstances, such as illness or death in the family.
IP	*In progress*: A temporary grade assigned for courses that are designed to have an anticipated enrollment that extends beyond one term. No more than two IP grades will be assigned for the same course.
CW	*Compulsory Withdrawal*: A temporary grade assigned by a Dean when an instructor, after documenting the prescriptive strategies applied and consulting with peers, deems that a student is unsafe to self or others and must be removed from the lab, practicum, worksite, or field placement.