CS121 Computer Organization Fall 2016

Alison Pechenick, Senior Lecturer
Department of Computer Science
www.cems.uvm.edu/~amp

Class meets Tuesday & Thursday
2:50 – 4:05 p.m.
Dewey 314

Description
Introduction to computer system organization including performance, assembly language, machine-level data representation, arithmetic for computers, processor datapath and control, memory, and input/output. Prerequisite: CS 110.

Instruction Team, Hours, and Contact Information

Instructor
Alison Pechenick
319 Votey Hall
Alison.Pechenick@uvm.edu

Graduate Teaching Assistant (GTA)
Nisha Chaube
345 Votey Hall
Nisha.Chaube@uvm.edu

Primary Grader/Teaching Assistant (TA)
Rachel Bayersdorfer

Office hours:
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<th>Mon</th>
<th>Tue</th>
<th>Wed</th>
<th>Thurs</th>
<th>Fri</th>
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<td>NC 1-3 pm</td>
<td>NC 1-3 pm (345V)</td>
<td>NC 10 am – 12 noon</td>
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<td>345 Votey</td>
<td>AP 3-4:30 pm (319V)</td>
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Required Resources


- **Simulator software for MIPS assembly language:** [http://spimsimulator.sourceforge.net/](http://spimsimulator.sourceforge.net/)

- **Blackboard** ([http://bb.uvm.edu](http://bb.uvm.edu))

Composition of Final Grade

<table>
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<th>Component</th>
<th>Weight</th>
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<tr>
<td>Textbook and coding assignments</td>
<td>30%</td>
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<tr>
<td>Technical engagement activities</td>
<td>5%</td>
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<tr>
<td>Weekly quizzes</td>
<td>10%</td>
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<tr>
<td>In-class group activities</td>
<td>5%</td>
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<td>Hourly exams (15% each)</td>
<td>30%</td>
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<td>Final project</td>
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Midterm Exams (during class): Thurs Oct 6 and Thurs Nov 17
Final Project Presentations (314 Dewey): Thurs Dec 15, 10:30 a.m. -1:15 p.m.
Grading policies

- Submitting your work after its due date impedes your progress in this course, and adds extra overhead to your personal well-being. Please submit your work on time.
- Short quizzes will be given every Thursday at the beginning of class. There are no makeups for lateness or absence, but the lowest quiz grade will be dropped.
- Homeworks are due every Tuesday at the beginning of class.
  - Late homework is subject to a 20% penalty for up to 24 hours after the due date. After 24 hours, the assignment will no longer be accepted.
  - We will grade your work and post the results one week after the due date.
  - Any questions regarding grading should be directed to your homework grader within one week of the grade being posted.

If there is a family emergency, or medically extreme situation, please communicate with the instructor as soon as possible, and in advance of the deadline.

Weekly Rhythm

- Homeworks are due every Tuesday at the beginning of class.
- Short quizzes will occur every Thursday at the beginning of class.
- Small group activities will occur during class, with your work recorded in blue books (provided) and collected at the end of every 2-3 weeks, unannounced. Credit will be given for completeness (all activities included), documentation (activity clearly labeled, including title and name(s) of partners), and quality effort. In some cases, there will be more than one correct response. State your assumptions and explain your reasoning for full credit.
- Check Blackboard regularly for the latest chapter slides, homework assignments, quiz content, exam coverage, and supplemental materials.
- Post and answer questions using the BB discussion board. To receive e-mail notifications when new posts occur, you may subscribe to each forum (optional).
- You are expected to be present, focused, and well-prepared for all class meetings. Questions and discussion are encouraged.
- Late arrivals are disruptive and impede your mastery. These should be avoided at all costs.
- Mobile phones and other devices should be silenced and stowed during class.

Academic Integrity

UVM is committed to our “learning, creating, and sharing knowledge responsibly”. You are responsible for familiarizing yourself with, and upholding, the UVM Code of Academic Integrity. Violations may earn you a zero on the assignment, and possibly an F (tagged “Academic Dishonesty”) in the course, so please do not risk this. If you are struggling with the material, or with time management, please reach out to the Instructor and GTA for academic support.
Accommodations

In keeping with University policy, any student with a documented disability interested in utilizing accommodations should contact ACCESS as early as possible. ACCESS staff work with students to create reasonable and appropriate accommodations. Students are responsible for discussing their accommodation letter with the instructor. Contact ACCESS:  http://www.uvm.edu/access/

Students have the right to practice the religion of their choice. If you need to miss class to observe a religious holiday, please submit the dates of your absence to me in writing by the end of the second full week of classes. You will be permitted to make up work within a mutually agreed-upon time.

Technical Engagement Activities (worth 5% of your course grade)

During the semester, you will be expected to pursue and describe (in your private Blackboard journal) at least two things that have captured your interest. Examples include

- Participation (as spectator, volunteer, participant, organizer, etc.) in activities such as those listed below. *
- Other technical seminars, workshops, conferences, job talks occurring when UVM invites prospective professors to campus; keep an eye on bulletin boards and UVM Today.
- Visits to the Generator Space, FabLab, etc.
- Taking the lead in an online technical discussion (our BB space, subreddit, etc.)
- Reading articles written in technical journals (for industry, academics, and hobbyists) such as MIT Technology Review, Embedded.com, CNET, IEEE Spectrum, PC World, Circuit Cellar, Arduino and Raspberry PI forums, etc.
- Volunteer on the “Advance Team” in support of our BeagleBone Black in-class labs

* Related Local Activities (See BB updates as new events are announced)

- Vermont Code Camp, Sep 17  http://vtcodecamp.org/
- Champlain Mini Maker Faire, Sep 24-25  http://www.champlainmakerfaire.com/  Volunteer for free admission
- Tod Machover, Director of the MIT Media Lab will give a UVM Burack Lecture concert on Oct 14 at 7:30 p.m. There may also be an opportunity for CS students to meet with him during his visit.

Machover develops technology to extend the capabilities of traditional instrument, and to make music creation possible for people without traditional musical training or for people with disabilities.

About Your Instructor

Alison Pechenick has advanced degrees in Environmental Engineering and Computer Science, a background in General Engineering (EE concentration) and Engineering Management, and industrial experience as an engineer with IBM and General Motors. She has lived overseas (Taiwan, Pakistan, Sweden) and in various regions within the U.S. With early experience “stuffing” and testing circuit boards in the family business (design and manufacture of industrial process controls), she has locally been a network engineer, IT support specialist, and technical trainer; loves to sail (cruise and race), bike and kayak; and has served as faculty advisor to the UVM Sailing Team and UVM Engineers Without Borders.