CSS 225 A

Physics and Chemistry of Computer Components and Their Manufacture

Class times/locations: Tues/Thurs 1:15pm-3:20pm UW1-315
Instructor: Kim Gunnerson
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Office: UW1-331
Office Phone: 425-352-3459
Office Hours: Tues,Thurs 11:30am-12:30pm or by appointment

Textbook: The Silicon Web: Physics for the Internet Age. Michael G. Raymer

Overview: This class is designed as a conceptually based study of the science of computers. A previous class in physics and/or chemistry is not required although work in those fields will be helpful. The purpose of this class is to help you develop an appreciation for the scientific concepts that are inherent in technology with specific emphasis on computer technology. You will have the opportunity to further build your understanding of the scientific method in the context of science as a human endeavor with all the advances and pitfalls that accompany such work.

Classroom: The presentation of the material will take on many forms including lecture, group work, discussion, presentation, etc. You will be held responsible for reading and studying the accompanying text. An exciting challenge is presented to you in that this textbook is in the process of being published and the author, Michael G. Raymer, is very interested in input about the textbook. This input can be in the form of typos, mistakes, segments that are not presented clearly from the point of view of the student, etc.

Homework: You will have weekly homework assignments that will mostly include problems found at the end of the chapters. In addition, I might add some additional questions where I deem them appropriate. You will turn in this work digitally via Blackboard. Your homework grade will be based on two assessment methods. First, you will receive credit for doing the assignment and turning it in on time. Second, there will be a weekly homework quiz that is composed of problems taken directly from the homework as well as synthesis questions.

Reading of research work: Twice during the quarter, you will read an abstract or whole paper from a research journal. You will write a summary of the paper and present a brief summary to the class. The purpose of this exercise is to allow the class to become

familiar with some of the research being done in the field of computer and technology component design.

Project and presentation: Approximately half way through the quarter, you and a partner will do research around a particular topic related to the physics of computing. You will write a paper and present your findings to the class. A more detailed assignment will be given to you during the third week of class.

Midterm and Final: The midterm will be administered on-line via Blackboard. Depending on our progress through the material, this midterm will most likely occur during the week of October 28. The final will be administered during finals week on December 9 during normal scheduled class time.

Student Assessment:

This table outlines the breakdown of how grades will be weighted for the 6 main assessment tools I will use in this class.

Assessment Tool	Percent grade
Homework Completion	5%
Homework Quizzes	15%
Research Reading	20%
Project	30%
On-line midterm	15%
Final	15%

The following table shows how your total grade will be assigned to the UW decimal grade. I reserve the right to give a higher grade than the one indicated in this table if I deem it is appropriate.

	A Range		B Range			C Range			D range		
Letter	A	A-	B+	B	B-	C+	C	C-	D+	D	D-
Min Decimal	3.9	3.5	3.2	2.9	2.5	2.2	1.9	1.5	1.2	0.9	0.7
Min 100-pct	95	90	86	82	77	74	70	65	61	57	55

Class Expectations:

1. Participation in class activities.
2. Timely completion of assignments.
3. Support a safe learning environment for all students.

Blackboard and e-mail:

All assignments will be posted on the class blackboard cite. You will need to create an account. The absolutely best way to get in touch with me is via my e-mail account. I check it regularly and will respond within 24 hours of receiving a message (weekends that may extend to Monday) gunnek@u.washington.edu .

Academic Integrity:

I expect, and you should also expect, high academic integrity as you pursue your studies. Cheating and plagiarism will not be tolerated. Consequences of that behavior range from a zero on the assignment to disciplinary action from the university. If you are ever in doubt, it is your responsibility to ask for guidance.

From the UWB Academic Integrity policy on plagiarism (from the UWB website)

Plagiarism includes but is not limited to, intentionally or unintentionally using another person's original words, ideas, or research in any academic exercise without properly crediting that person.

Examples:

- Failing to cite all sources used
- Using another author's sentence or phrase structure without proper citation
- Paraphrasing another author without crediting the author
- Stating facts that are not common knowledge without citing the source.

Disability and accommodations:

If you believe that you have a disability and would like academic accommodations, please contact Disability Support Services at 425.352.5307, 425.352.5303 (TDD), 425.352.5455 (FAX), or at dss@uwb.edu. You will need to provide documentation of your disability as part of the review process.