

## ECS20

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**Class Web page:** <http://koehllab.genomecenter.ucdavis.edu/teaching/ecs20/>

Check here for reading assignments, information about past and future lectures, problem sets, news,...

**Textbook:** selected chapters from Kenneth Rosen: Discrete Mathematics and Its Applications, 6<sup>th</sup> edition

### **Lectures:**

You are expected to attend lecture, but I will not keep track of presence. You are responsible for the material discussed in class, and any announcements made in class.

There is no eating in lecture.

### **Homework:**

There will be homework almost every week, usually due on Thursday evening at 5pm.

Collaboration is allowed. Keep in mind however that your goal in doing the homework problems is to learn how to do them yourself. Write up the homework solution by YOURSELF. This means that after reading, talking, and thinking, you write down the solution with your own word/style. Your goal is to demonstrate that you understand how to do the problem. PLEASE WRITE LEGIBLY!

Please hand the homework in the box in Kemper (2131 / 2132). Homework will not be accepted in class, e-mail,...or delivered in any way other than in the box.

Late homework will not be accepted. Your lowest homework grade will be dropped, however, to cover one emergency that may come.

We may grade only a selection of the homework problems. If there are questions that are not graded, they will not be announced in advance...

### **Quizzes/ Exams:**

There will be at least 2 quizzes, which will be announced ahead of time.

There will be a midterm and a final. Both will be open books, and open notes. You must attend the exams at the specified dates; there will be no make-up exams.

All exams are open-book, open notes.

**Re-grades:** We will not consider re-grading any homework, quiz or exam unless you bring the potential grading error to our attention within ONE week after the work has been returned to you.

**Grading:** 30% homework, 10% quizzes, 25% midterm, 35% final

### ***Dealing with flu...***

You may have heard that a significant H1N1 flu outbreak is likely this coming fall quarter. While there is definitely no need to panic about this issue (there are no indications that H1N1 flu is more serious than seasonal flu; in fact it could be the opposite), there are a few things you can do to get ready and minimize the impact of such an outbreak:

- I would recommend that you do get the seasonal flu vaccine as well as the H1N1 specific flu vaccine
- Wash your hands! Good hygiene definitely has a curving effect on infectious disease propagation
- Use proper “cough hygiene”...H1N1 (like any flu) is spread more through coughing than through touch
- If you are sick, stay “home”; minimizing the number of contacts will minimize the spread of the virus. It is safe to return to normal activities 24 hours after the fever has broken down.

What about the consequences on your classes? I cannot speak for my colleagues, but here are my policies:

- if you are sick with flu like symptoms, you do not need to provide any documentation except for an e-mail stating that you were sick on the specified dates.
- You will not lose points if your possible absence overlaps with a quiz; as far as midterm and final is concerned, I will give make-up exams if needed.
- If you come to class while obviously ill, I may ask you to leave, as a courtesy to others.

***Questions:*** try to ask questions in person in lecture, discussion section or office hours. I have a tendency to procrastinate when it comes to answering e-mails....

## **Syllabus**

### **Logic (4-5 lectures)**

*Propositions; compound propositions; methods of proof; mistakes in proof; predicate and quantifiers*

### **Functions and algorithms (4 lectures)**

*Set theory; functions: injection, surjection, bijection; growth of functions;  
Algorithm: definition; pseudo codes*

### **Number theory (6 lectures)**

*Fundamental theorem of arithmetics; GCD, LCM, Bezout theorem. Division. Fermat’s little theorem.*

*Sequences.*

*Proof by induction; recursion*

### **Counting (5-6 lectures)**

*Product rule; sum rule. Pigeonhole principle. Arrangements; combinations.  
Probabilities.*