Math 5120: Mathematical Biology
Spring Semester 2010

Lectures: TH 10:45 am -12:05 pm, LCB 323

Instructor: Alla Borisyuk
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Office Hours: Monday 4 to 5 in LCB 115

Text: the class notes are supposed to be self-sufficient, however, most of it will be a combination of material from the following books:
- (EK) L. Edelstein-Keshet Mathematical Models in Biology.
      http://ec-securehost.com/SIAM/CL46.html
- (dV) G. de Vries, T. Hillen, M. Lewis, J.Muller, and B. Schoenfisch . A Course in Mathematical Biology: Quantitative Modelling with Mathematical and Computational Methods.
   http://www.ec-securehost.com/SIAM/MM12.html
– (Br) N.F. Britton. Essential Mathematical Biology. Springer, 2004

   These books will be on reserve in the Marriott Library. I may add other references as needed.

The Course. Math 5110-5120 is designed to introduce the mathematically apt to some of the basic models and methods of mathematical biology. No previous knowledge of biology is necessary, but strong calculus is a must, including multivariable calculus.
The second semester covers models of population dynamics, reaction kinetics, diseases, and cells that can be written as partial differential questions, or include a stochatic (probabilistic) component. Class notes that students are expected to take during lectures are intended to be self-contained for these topics. 5110 is the prerequisite.

Homework. Written homework will be handed out at almost every lecture (and posted on the web page) and due the following Tuesday at the beginning of the class. Homework will be worth 25% of your grade. Feel free to consult other students, but only after thinking hard about the problems yourself.

Computing: The students will be expected to work with Matlab for some of the assignments. You will have access to the math departments' computer system, including all software. There will be some Matlab training provided.

Tentative test dates. There will be two midterms, mid-February and end of March (exact dates TBA), each worth 25% of your grade, and a comprehensive final project worth 25% of your grade.

ADA statement. The University of Utah seeks to provide equal access to its programs, services and activities for people with disabilities. If you will need accommodations in the class, reasonable prior notice needs to be given to the Center for Disability Services, 162 Olpin Union Building, 581-5020 (V/TDD). CDS will work with you and the instructor to make arrangements for accommodations