Math 6780  
Decision-Making: Studies in self-(dis)organization  
Spring Semester, 2014

Time: Tuesday, Thursday 12:25 p.m.  
Place: BU C 210  
Instructor: Fred Adler  
Offices: 304 LCB and 319 South Biology  
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Web page: http://www.math.utah.edu/~adler/math6780/  
Office Hours: TBA

The Course: Math 6780 is designed to introduce the questions and methods related to the role of information in biology. To emphasize active research, we will not follow a textbook, but instead use papers from the literature as needed to guide lectures and discussion.

Homework: There will be written homework now and then, with some of the problems being more open-ended explorations of extensions of the ideas discussed in class. Using a computer will likely be necessary.

Tests: Unless there is major demand, there won’t be any tests.

Projects: By the beginning of February, I’d like to meet with each student to discuss a small project building on something from class or a potential research topic. Each student will share teaching with me on one day toward the end of the semester, and hand in a write-up by April 30.

Grading: The grade will be based approximately 40% from homework, 40% from the project, and 20% from classroom participation and leadership. Shy students can make this up by completing more open-ended questions mentioned in class.

Course outline: This rough outline will likely change based on how things go, but it would be good to make contact with each of the big topics. I will post any readings on the web page, hand them out, or tell you not to bother.

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<th>Topic</th>
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<tr>
<td>January</td>
<td>Optimal foraging theory and Bayesian foraging</td>
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<td>February</td>
<td>Foraging in groups</td>
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<td>March</td>
<td>Decisions without thinking: Cells and molecules</td>
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<td>April</td>
<td>Decisions by scientists: Bayesian methods</td>
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