MATH 188. Writing Project Guidelines

As this course meets the Integrative Experience requirement for HMC students, there will be a paper and an oral presentation involving a critical analysis of the relationship of the mathematical methods of game theory to contemporary society and decision-making.

In your paper and presentation, you'll model a real-life situation of your choice using the techniques of decision analysis and game theory, or choose an existing model to critique. Some examples could include:

* I. Choose a past historical event or a situation, model the agents and strategies involved, and use your model to explain why events transpired the way they did.
* II. Choose a current situation or event, model the agents and strategies involved, and then use your model to (a) suggest a course of action or (b) make a prediction about what will happen
* III. Choose a current social choice problem and understand it in terms of ideas from cooperative game theory.

Your paper should also contain a critical analysis of the methods used. For instance, does mathematics provide a good model for decision making in the context you describe? What’s missing in the model? As people often make decisions based on such models, what would be appropriate or inappropriate uses of this model? How do societal considerations influence the model, and what implications does the model have for society?

Intended Audience: the average HMC student
Length: 5 - 10 pages
First Draft: due Wednesday, Nov 21. (Bring 3 copies for peer review.)
Final Draft: due Friday, Dec 14, at noon.
Writing Center consultation: strongly encouraged
MATH 188. Evaluation Rubric for Papers
(Please staple to front of paper before handing in, and answer the first two questions.)

1. Name: ————————————
2. Did you consult with someone at the Writing Center? (yes/no)

3. (To be filled out by evaluators) On a scale of 1 to 5, does this paper:
   ___ clearly define the problem to be solved?
   ___ clearly define the model that will be used to address the problem?
   ___ clearly state the assumptions that are made in the model?
   ___ contain an analysis of the solution, and is the mathematics correct?
   ___ define all terms and variables, and clearly label all diagrams?
   ___ give acknowledgement where it is due?
   ___ have correct spelling, punctuation, grammar?
   ___ have an overall, well-written style?
   ___ give historical context or relevant background for the problem?
   ___ explain the sources for the model?
   ___ describe advantages and limitations of the model?
   ___ suggest and explore ways the model might be improved?
   ___ describe appropriate and inappropriate uses for the model?
   ___ discuss several implications that the model might have for society?
   ___ discuss several ways that societal considerations influence the model?
   ___ exhibit creativity in planning, design of the model, analysis?
   ___ make sense to an HMC student not in the class?

Evaluators: feel free to include additional feedback and comments.