

## **Project: Game Theory (Spring, 2021)**

Prepared by:

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### **Project for MSTM 6017**

All students registered for 6017 should prepare a project. Note: students registered for 5017 can also submit a project if they wish to do that. This can't hurt your grade, only improve it. Here are some suggestions about how to choose a project:

- a. Design a modeling/algebra lesson at a specific grade level in the range from 6-16 (with permission you can also do something at a lower grade level than this) which draws on the theory of games or models of fairness/equity. If you develop an activity for this lesson be sure that it is accompanied by an explanation/discussion of the game theory/equity/fairness "behind" the lesson. In any case the mathematics behind the lesson should be discussed in detail. You should develop a lesson centered around a topic we touched on in class. Provide sample answers for work you ask of students.
- b. Historical essay about some aspect of game theory/fairness/equity which includes a significant amount of exposition about mathematics in addition to the historical context. The aspect of game theory/equity/fairness chosen should be something touched on in class.
- c. Biographical essay about some contributor to game theory/fairness/equity which includes a significant amount of exposition about mathematics in addition to the biographical content. The aspect of game theory/equity/fairness chosen should be something touched on in class.

d. A project you suggest with some game theory/fairness/equity theme. For example you might select a recent newspaper article (perhaps having to do with the 2020 Democratic Party primaries, Brexit, the 2020 Presidential election, or the upcoming election for the mayor of New York City) as a jumping off point for a game theory project.

e. Use some homework problem as an inspiration for a project.

### Steps

1. Prepare a one-paragraph description of your proposed project. Due no later than: March 22, 2021 (email submission fine)

2. Completed project due: (Ideally, by April 19, 2021 but no later than April 26, 2021) I would prefer a paper *Paper copy*, but electronic Word or PDF file is acceptable. There is no specific length but it should show "substance."

Note: While there is no specific length for the project it should display a "significant" amount of work/effort and represent *your own work*. If you quote the work of someone else use "quotation marks" and provide a bibliographical reference.

***All projects should include bibliographic references indicating sources for your work. Using someone else's work or words without attribution is considered plagiarism.***