CMSC 498T, Game Theory

Syllabus

Dana Nau
University of Maryland
What is Game Theory?

- This course isn’t about video games
  - For that, you’ll want CMSC 498M, Game Programming

- Game theory is the mathematical study of interactions among agents that are self-interested
  - **Agents** (or **players**): humans, animals, computers, companies, …
  - **Self-interested:**
    - Different agents have different preferences
    - They like some outcomes more than others

- More about this after I go through the syllabus
- Prerequisite: CMSC 351
- This course will count for Area 2 (the 42x courses) in the CS degree requirements
  - [http://undergrad.cs.umd.edu/current-students/degree-requirements-for-cs-major/](http://undergrad.cs.umd.edu/current-students/degree-requirements-for-cs-major/)
Basic Info

- Instructor: Dana S. Nau, nau@cs
  - Office hours: after class until about 5:30pm; other times by appointment
  - Office: Room 3241 AVW
  - Telephone: 301-405-2684

- Teaching assistant: Praveen Vaddadi, praveen@cs
  - Office hours: Fridays, 2–4pm
    - In the TA room (AVW 1112)

- Prerequisite: CMSC 351

- This course will count for Area 2 (the 42x courses) in the CS degree requirements
  - [http://undergrad.cs.umd.edu/current-students/degree-requirements-for-cs-major/](http://undergrad.cs.umd.edu/current-students/degree-requirements-for-cs-major/)
Basic Info

- Class web page
  - http://www.cs.umd.edu/class/spring2011/cmsc498t/
  - Lecture slides, homework assignments, etc.
  - A link to the syllabus (this document)
  - Links to the class discussion forum
    - web site and RSS feed

- When you have questions, please consider posting them on the class discussion forum
  - Others may be able to answer your question
  - Others might like to see the answer
Textbook and Lecture Notes

- Required text:
- Hard copies of the book are available in the bookstore, for $33.25
- You can get a PDF copy at the publisher's web site
  - [http://www.morganclaypool.com/doi/abs/10.2200/S00108ED1V01Y200802AIM003](http://www.morganclaypool.com/doi/abs/10.2200/S00108ED1V01Y200802AIM003)
  - If you connect from the university network, you can get it free
- We’ll cover nearly all of the book, plus several additional topics
  - For a tentative list of topics, see the class web page
- I’ll put my lecture slides on the class web page as we go along
Homework

- Probably about 8 homework assignments (one for each chapter)
  - Typically about 4 or 5 problems apiece
- Submit your answers on paper, *in class*
  - Not by email, or in my office, or in my mailbox

- Due dates:
  - I'll usually give you a week to complete the assignment
  - For full credit, submit it on the due date
  - For 10% off, submit it next time the class meets
  - No credit if you submit it after that

- The TA will grade the homeworks
  - If you want something regraded, please talk to him first
Programming Projects

- Probably three programming projects
  - Write a computerized agent, in Java, to run in some kind of game-theoretic environment

- Due dates:
  - I'll usually give you about two weeks to do the project
  - I’ll assign a due date and a late date
  - For full credit, submit it by the due date
  - For 10% off, submit it by the late date
  - No credit if you submit it after that

- The TA will grade the projects
  - If you want something regraded, please talk to him first
Exams

● Midterm exam:
  ▶ Tentatively Tuesday, March 15
  ▶ If this date will cause any scheduling conflicts, please let me know by
    the end of January

● Final exam:
  ▶ University schedule says 10:30am–12:30pm on Wednesday, May 18

● Both exams will be in this room
● Probably open book, open notes
● A few days before each exam, I'll do an in-class review of the material
  we've covered, to help you prepare for the exam
Semester Grades

- At the end of the semester, I’ll compute a numeric score by adding up the following:

- your midterm exam score 100 points possible
- your final exam score: about 140 points possible
- 1/2 of your total score on the programming projects 150 points possible
  - ½ × 3 × 100:
- 1/5 of your total score on the homeworks about 70 points possible
  - Roughly 1/5 × 8 × 40:
- Total possible: about 460 points
- I’ll assign letter grades on a curve
Academic Integrity

- On exams and programming projects, I’ll expect you to follow the student honor pledge:
  - [http://www.studenthonorcouncil.umd.edu/code.html#honor_pledge](http://www.studenthonorcouncil.umd.edu/code.html#honor_pledge)