CMSC 722, AI Planning
Syllabus

Dana S. Nau
University of Maryland

Tues/Thurs 2:00–3:15 PM
IRB room 2207

● Announcements:
  ▶ If you don’t have a U. of Maryland Turning Point account, get one now
    • You’ll need it for every class section
  ▶ All class sessions will be recorded, uploaded to Panopto
Instructor and TA

- Instructor
  - Dana S. Nau
    - Office hours Tues/Thurs 3:30–4pm, other times by appointment

- TA
  - Jun Wang
    - Office hours Tues 4–6pm, other times by appointment

- For up-to-date info on office hours, check the Staff tab on the Piazza Resources page
  - If you don’t know what Piazza is, see the next slide
Piazza

- [https://piazza.com/umd/spring2022/cmsc722/home](https://piazza.com/umd/spring2022/cmsc722/home)
  - Class discussions
  - Resources page
  - This syllabus
  - Names and office hours
  - Nothing useful
  - Resources tab of the resources page (!)
  - Things you can download

- Don’t send questions by email, use Piazza instead
  - You’ll get answers more quickly
  - The answer might be useful to others
  - Others in the class be able to answer
  - You can post private questions to just the TA and me
My Lectures

• I’ll put copies of my lecture slides on Piazza
  ▶ Final version available after the lecture

• Class sessions will be recorded, uploaded to Panopto

• Please ask questions!
  ▶ They give me a better idea of what to explain
  ▶ Others may have the same question, they’ll be glad you asked

• I’m hard of hearing
  ▶ If I ask you to repeat your question or use a microphone, please be patient

• During lectures, I’ll do in-class polls
  ▶ You’ll need a U. of Maryland Turning Point account

• Most polls:
  ▶ I’ll show you a multiple-choice question
  ▶ Discuss it with others at your table, then vote for the answer you think is correct

• Vote at ttpoll.com or use the Turning Point app (IOS, Android)
  ▶ Session ID cmsc722
  ▶ Votes will be anonymous, won’t affect your grade
Prerequisites

● Official prerequisite:
  ▸ CMSC 421 (Intro to AI) or equivalent, or permission of instructor

● You don’t need to know most of the things in CMSC 421

● Some things it would be helpful to know:
  ▸ heuristic search (but I’ll review it in class)
  ▸ propositional (Boolean) logic
  ▸ a little notation and terminology from first-order logic (e.g., predicates, instantiation)
  ▸ complexity theory (basic ideas)
    • $O$, $\Theta$, $P$, $NP$, $NP$-hardness, $NP$-completeness
  ▸ “mathematical maturity”
    • math notation, derivations, …
Textbooks

● Primary:
    • More info, including a downloadable copy of the manuscript

● Supplemental:
    • PDF copy available free if you download it on the campus network

● Not required, but parts of them might be useful:
Homework, Quizzes, Exams

≈ 6 ungraded homework assignments
  ▶ Usually a few exercises from the book
  ▶ Please discuss them on Piazza
  ▶ About a week after I assign them, we’ll discuss them in class

≈ 6 brief in-class quizzes
  ▶ Usually a single problem to solve, on the same day that we discuss the homework
  ▶ Discuss the question in small groups
    • At most 5 per group
    • If the group all agrees on the same answer, it’s OK if the answers look alike
  ▶ Your worst quiz score will be dropped
  ▶ Just a small percentage of your grade

● Midterm exam:
  ▶ Date TBD (probably Thurs March 17 or 31)

● Final exam:
  ▶ Monday, May 16, 10:30am-12:30pm
  ▶ Specified by the university exam schedule

● Both exams will be in this room

● To help you prepare
  ▶ In-class review
  ▶ Online copies of old exams
    • with and without answers
Programming Projects

- One or two projects
- ≈ 2–4 weeks to do each project
  - Submit before midnight on the due date
  - 10% penalty: submit up to 2 days late
  - No credit after that

- OK to discuss ideas and general approach with other students
  - But not pseudocode or actual code
  - The code you submit must be your own

- Submit projects on Gradescope
  - Entry code YVW3ZE

- The TA will grade the projects
  - For regrades, contact him on Piazza

- Projects will done partly in Python, partly in PDDL
- PDDL is in the supplementary textbook, I’ll teach the parts that you’ll need
- I’d rather not teach Python
  - It’s easy to learn, almost like reading pseudocode
  - If necessary, I can quickly review the basics

Poll: how much Python do you know?
A. None
B. A little
C. Enough for ordinary programming
D. A lot
E. A lot, and I know what import antigravity does
F. I probably know more about it than you do
### Grading

- Proportion of grade will probably be one of the following:

  **If we have two projects**
  - Midterm: 15%
  - Final: 25%
  - Projects: 25% each
  - Quizzes: 10% total

  **If we have one project**
  - Midterm: 22%
  - Final: 33%
  - Project: 35%
  - Quizzes: 10% total

- We’ll assign letter grades based on the ranges shown in the table:
  - Depending on the grade distribution, I may lower the cutoffs

<table>
<thead>
<tr>
<th>Letter grade</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>A+</td>
<td>97–100</td>
</tr>
<tr>
<td>A</td>
<td>93–96</td>
</tr>
<tr>
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<td>D−</td>
<td>60–62</td>
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<tr>
<td>F</td>
<td>0–59</td>
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Other Things

- University course-related policies for **graduate** and **undergraduate** students
  - Academic integrity, accessibility, absences, missed assignments, rights, responsibilities, university resources, etc.
- On exams and programming projects, you’ll need to sign the student honor pledge

- **A study** in 2018:
  - When students were allowed to use electronic devices, they did about 5 points worse on exams
  - Even if they didn’t use the devices themselves
- You may use electronic devices, but only for things related to this class

- **UMD information on preventing COVID-19**
- **Poll:** have you been vaccinated and boosted?
  - A. yes        C. vaccinated, not boosted
  - B. no         D. huh?
- At most 5 people per table
- Wear a mask and **make sure it fits properly**
  - KN95, KF94, or N95 (no exhaust valve)
- **Poll:** are you wearing one of the above?
  - A. yes        B. no (but I’ll do so next time)
- Free test kits:
  - student union and **covidtests.gov**
- **If you get COVID-19**