DS 574 Algorithmic Mechanism Design **Project Rubric**
Fall 2025 Prof. Kira Goldner

Final Project Rubric

In total projects are graded out of 80 points: 8 points for the proposal, 27 points for the presentation, and 45 points for the report.

Presentation

Your presentation will be 10-12 minutes with 3-5 minutes for questions. Presentations will be in-class on Thursday, December 7. All students should attend and be prepared to ask questions, as it will contribute to their grade. Presentations are worth 27 points total.

You will be evaluated on each of the following components. You are not bound to the following order, but you may find it to be a convenient order.

1. Motivation (2 points)
2. High-level research question (2 points)
3. Precise model (2 points)
4. Statement of main results (3 points)
5. Contextualization of results
   (a) with respect to related work (2 points)
   (b) the significance of this contribution (2 points)
6. Additional preliminary mathematical building blocks necessary to understand (2 points)
7. Proof sketches of main results **focused on intuition** and any key/cute/novel ideas. (i.e. not just calculations) (2 points)
8. Open problems that you like (2 points)

[For surveys, you should cover (1-5) **for each work you discuss**, and (6-7) as you see fit, focusing especially on contextualization of all of the results together. You should include (8) at the end. Completing **per paper:** (2 points)]

Required for research; **Optional** for surveys:

6. Additional preliminary mathematical building blocks necessary to understand (2 points for research; optional for surveys)
7. Proof sketches of main results **focused on intuition** and any key/cute/novel ideas. (i.e. not just calculations) (2 points for research; optional for surveys)

At the end:

8. [Survey only:] Tie the papers together displaying a research area. (2 points for surveys)
9. Open problems that you like (2 points)

Advice: The model and statements should be clear, but also try not to use too much math/notation. It is a good idea to use running examples!

Finally, for both types of projects, students will be evaluated on:

- Quality of presentation: running examples, clear model and statements, not too much notation, general clarity. (2 points)
- Length of presentation (2 points)
- Answering questions (2 points)
- Participation in other presentations (2 points)

Write-Up

Your write-up should be typeset in LaTeX and be **at least 6 pages long, not including references**. It must be turned into Gradescope by 5pm on December 19, one copy per group. **No late reports will be accepted.** It is worth 45 points total.

Research Write-Up: You will be evaluated on each of the following components.

1. Introduction: high-level research question (9 points), motivation (3 points), statements of main results (3 points), a subsection on related work (3 points)
2. Preliminaries: precise model, additional preliminary mathematical building blocks necessary to understand the remainder of the work (3 points)
3. Bulk of the write up split into sections that tell a story, including:
    - Results (6 points)
    - Formal theorem statements (3 points), formal proofs (3 points), english paragraphs of intuition and telling a story in between them (3 points)
    - Your approach and results, discussion of challenges faces, other approaches attempted (3 points)
    - Suggestions for future work (3 points)
4. References—always be generous with your citations. (3 points)

Research write up example: https://arxiv.org/pdf/2011.09406.pdf

Survey Write-Up: You will be evaluated on each of the following components.

1. Overview/Introduction: high-level research area (6 points), motivation (3 points), main questions (3 points), statements/table of state-of-the-art or progression of results (3 points)
2. Preliminaries: if unified: precise model, additional preliminary mathematical building blocks necessary to understand the remainder of the work (3 points)
3. For each paper, a section including: (3 points)
    - Paper's research question (3 points)
    - Additional details needed for their model; additional preliminaries (3 points)
    - Statement of main results (3 points)
    - Contextualization of results wrt other papers and any additional related work (3 points)
    - Approaches, key ideas, intuition, proof sketches as makes sense (3 points)
4. Open problems (3 points)
5. References—always be generous with your citations. (3 points)

Survey example: https://cs.brown.edu/courses/cs1951k/lectures/2020/prophet_inequality_reading.pdf