

# COMP 690: Stochastic Performance Modeling and Scheduling in Computer Systems

## Homework 6: Scheduling

Released: April 14, 2026      Due: April 27, 2026

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**Instructions:** This assignment is due at the start of class on the above due date. Collaboration is allowed, but please note your collaborators and turn in your own version of your answers. For more info on collaboration, see the course syllabus. Please utilize office hours if you get stuck! Office hours are Monday 10:00 - 12:00 and Friday 10:00 - 12:00 in FB 336. All problems come from the course textbook unless otherwise stated. **Please staple this page to the front of your answers.**

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### Book Problems: 24.1, 25.13, 25.14 (a-c), 26.4, 27.6, 30.6, 31.1, 32.2

**25.14 redux:** We have an expression for the transform of time in queue in the  $M/G/1$ . Re-write this expression in terms of the transform found in 25.14 to show how time in queue remains related to the excess size distribution.

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All problems are worth 1 point except 30.6, which is worth 2 points.

| Problem     | Score |
|-------------|-------|
| 24.1        |       |
| 25.13       |       |
| 25.14 (a-c) |       |
| 25.14 redux |       |
| 26.4        |       |
| 27.6        |       |
| 30.6        |       |
| 31.1        |       |
| 32.2        |       |
| Total       |       |

Name/onyen: \_\_\_\_\_

Collaborators (or write N/A): \_\_\_\_\_