Syllabus of Operations Research Methods (AMA3820)
2025/26 Semester 1

September 4, 2025

You can find the **Subject Description Form** for this course at `https://www.polyu.edu.hk/ama/information/undergraduate/AMA3820.pdf`. Please read it together with the syllabus carefully at the beginning of the semester.

Instructor Details

- Name: ZHANG, Shijun
- Email: shijun.zhang@polyu.edu.hk
- Office: TU815

- Office Hours: Thursday 15:00 – 17:00

If you have any questions, please first reach out to the teaching assistants. You are also welcome to come to my office during office hours—no appointment is needed. If that is not feasible, you may contact me by email. Office hours, which are not compulsory according to university policy, may occasionally be rescheduled or canceled due to my travel or other commitments. Advance notice will always be provided, and I appreciate your understanding.

Class Schedule and Location

- Tutorial (by TAs): Monday **15:30 – 16:20** in **TU107** or **CD301**.
- Lecture: Thursday **11:30 – 13:20** in **N003**.

Assessment and Grade Thresholds

Grades in this course will be based on the following components:

- **Assignments (15%):** There will be **three assignments** in total, tentatively due in **Week 5**, **Week 9**, and **Week 13**. The exact schedule may be adjusted, but any changes will be announced in advance.
- **Midterm Test (25%):** The midterm test is tentatively scheduled for **Week 9**, but the exact timing may be adjusted depending on the arrangements at that time.
- **Final Exam (60%):** The final exam could include all the material we've covered and is scheduled to take place during the "Examination Period" from December 4 to 19.

The grade thresholds are provided in the table below:

Grade	A-, A, A+	B-, B, B+	C-, C, C+	D, D+	F
Mark	85–100	65–84	50–64	40–49	0–39

Tentative Course Schedule

* **Week 1**: Graph Models
* **Week 2**: Maximum Flow Problem
* **Week 3**: Project Network (CPM and PERT)
* **Week 4**: Linear Programming: Formulation
* **Week 5**: Simplex Method
* **Week 6**: Linear Programming: Duality
* **Week 7**: Integer Programming
* **Week 8**: Inventory Theory I
* **Week 9**: Midterm
* **Week 10**: Inventory Theory II
* **Week 11**: Queueing Theory I
* **Week 12**: Queueing Theory II
* **Week 13**: Depending—leftover content, new material, or review.

The PolyU Academic Calendar can be accessed at `https://www.polyu.edu.hk/ar/docdrive/polyu-students/AC.pdf`.

Reference Books

- *Operations Research: An Introduction (10th Edition)*, by H. A. Taha. Published by Pearson, 2017.
  Available at PDF link.
- *Introduction to Operations Research (10th Edition)*, by F. S. Hiller and G. J. Lieberman. Published by McGraw Hill, 2015.
  Available at PDF link.
- *Probability and Statistics for Engineers (9th Edition)*, by R. Johnson, I. Miller, and J. E. Freund. Published by Pearson, 2017.
  Available at PDF link.
- *Operations Research: Applications and Algorithms (4th Edition)*, by W. L. Winston and J. B. Goldberg. Published by Thomson Brooks/Cole, 2004.
  Overview available at WorldCat record.
- *Production and Operations Analysis (6th Edition)*, by Steven Nahmias. Published by McGraw Hill, 2009.
  Overview available at Publisher page.