

G0A63A: Optimization and Numerical Methods

About Course, Assignments, and Exam

2024 – 2025

Online Only!

1. **Instructors:** Geert Molenberghs (Coordination)
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2. **Course Format & Schedule:**

The course is organized in the following format:

- First, web lectures need to be followed (for links, see bottom of this document). This can be done in the course participants' own time.
- Second, the course notes also contain exercises. It is very strongly recommended to try these.
- Third, a total of six online Question&Answer (Q&A) sessions are organized, in real time (two by Geert, three by Francis, one by Katrijn, one by Tom)
- It is important to clearly see the goals of the Q&A sessions:
 - It is not intended to introduce additional material.
 - It is intended to respond to questions regarding course material and exercises.
 - In these Q&A sessions, the lecturers will also be able to paint the broader picture behind the material covered in the various chapters.

Again, these are not formal lectures; it is important that the web lectures are watched prior to the Q&A session and that exercises are tried.

- Important: questions can be submitted prior to the face-to-face sessions, by way of the "Discussion Board" on Toledo or by emailing them to the teacher. **Participants are strongly encouraged to submit questions ahead of time; it allows for efficient face-to-face sessions.**
- Students are encouraged to use their own software (on their own device). This can be used for some of the exercises. Evidently, the instructors are not necessarily familiar with a given software tool.

- For regular Master of Statistics Students, an additional Q&A session is planned

Note, one of the web lectures is a brief overview of the entire course, with useful information and suggestions.

Q&A Session	Date	Instructor	Time	Chapters
1	October 8, 2024	Francis Tuerlinckx	10:00–12:00	1–3
2	October 15, 2024	Geert Molenberghs	10:00–12:00	4 + 6
3	October 29, 2024	Tom Wilderjans	10:00–12:00	5
4	November 5, 2024	Geert Molenberghs	10:00–12:00	9 + 11
5	November 12, 2024	Katrijn Van Deun	10:00–12:00	7–8
6	November 19, 2024	Francis Tuerlinckx	10:00–12:00	10 + 12.1-12.4
7	November 26, 2024	Francis Tuerlinckx	10:00–12:00	12.5-end

3. Evaluation:

- The evaluation will be a written project, of which the assignment will be given in due course
- The project will consist of a numerical optimization programming task.
- Students can work in groups of 2 or alone, on the project.
- This report should be handed in prior to the oral exam.
- The oral exam (which is individual) consists of two components:
 - A five-minute presentation of the project by the student.
 - Questions and answers relative to the project and general understanding.
- The instructors will create an individual time schedule for the oral exam.
- The oral exam will take place via BlackBoard Collaborate Ultra.

Course Material

1. The **course notes**, prepared by the instructors are mandatory course material. They will be provided in digital form through Toledo or by email.

The course notes contain a list of references with additional reading. The additional reading is optional.

2. **Web lectures:**

https://kuleuven.mediaspace.kaltura.com/playlist/dedicated/1_254yohus/

or through the Toledo site of the course.

3. A document with solutions to the exercises is made available after the Q&A contact sessions.