

WELCOME TO THE “DECISION MAKING FOR BUSINESS” COURSE MODULE

Dear students,

It goes without saying that we live in exciting but strange times. During the COVID pandemic, we learned how to teach online, but we also learned that meeting LIVE is still the best experience. That is why we are going to give this course as a mix between online and in-person teaching. Therefore, this document gives you some information about the course material and course schedule.

COURSE SCHEDULE

Obviously, the schedule below might be subject to changes. As far as we now know, the lectures will be a mix of LIVE lectures in the classroom and intense guidance by the research assistants for the case study.

- LIVE lectures: The general idea is that we see each other live for 4 or 5 times.
- Guidance: Since the course module mainly consists of a case study, you will have the option to ask for help. Rojin and Forough will be available on Tuesdays and Thursdays. I will join them on two Thursdays for optional feedback on the memo's you will write.
- Please, keep an eye to UFORA, since we will put the latest schedule always online.

It doesn't matter so much how we will organise this course module, since we'll make it nevertheless a fantastic journey into the exciting world of decision making!

COURSE MATERIAL

Make sure that you have your course material ready from the very start of this course module. The material consists of two parts:

- Part 1. Slides: The book with slides contains all slides, and will be available on UFORA
- Part 2. Case study: The (copyright protected) case study will be available on hard copy. You can buy it via the secretary (a message on UFORA will explain how). It's crucial that you have it fast, since I cannot share this material online due to copyrights.
- Book: There is no book to buy. I have an optional (free) book. I'll show in class how you can get it.

The lecturer is yours truly, Mario Vanhoucke, but I will mainly play a role in the background. The assistants will guide you in the case study, and will discuss everything with me on our weekly meetings. If you are in trouble, we'll help you finding the right path again. We are a fantastic team, as you will (hopefully) see, and I hope you will enjoy it.

Be welcome!
Best regards,
Mario



Decision Making for Business

(a.k.a. “Applied Operations Research”)

Mario Vanhoucke

Course outline

1	Thursday 28/09/2023	Class session 1 - Practical details about the course - A general introduction to Operations Research (review) - An introduction to the case	Auditorium (cf. UFORA)
2	Thursday 05/10/2023	Class session 2 - Introduction to mathematical modelling software tools (SOLVER and CPLEX) - Tips and tricks for good modellers (a.k.a. business engineers)	Auditorium (cf. UFORA)
3	Thursday 12/10/2023	No class session! - Beware that you finish case A and B - Submit your first report (cases A and B) online	Put memo in UFORA submission box
4	Thursday 19/10/2023	No class session (memo discussion possible)! - Beware that you work on case C - Mario will also be available for optional feedback on your first memo	Q&A (via ZOOM)
5	Friday 27/10/2023	Class session 3 - Introduction to personnel scheduling (= topic of the case) - Beware that you finish case C	Auditorium (cf. UFORA)
6	Thursday 02/11/2023	No class session! - Beware that you finish case C and D (and think about case E of course!)	
7	Thursday 09/11/2023	Class session 4 - Heuristic and meta-heuristic optimization - Heuristic programming skills necessary to solve case E	Auditorium (cf. UFORA)
8	Thursday 16/11/2023	No class session! - Beware that you finish case D - Submit your second report (cases C and D) online	Put memo in UFORA Submission box
9	Thursday 23/11/2023	No class session (memo discussion possible)! - Beware that you review cases A-D and that you start working on case E - Mario will also be available for optional feedback on your second memo	Q&A (via ZOOM)
10	Thursday 30/11/2023	No class session - Beware that you finish cases E and F	
11	Thursday 07/12/2023	Class session 5 - Special topics (Monte-Carlo and discrete-event simulation)	Auditorium (cf. UFORA)
12	Thursday 14/12/2023	No class session - Presentation of your main results (10 minutes, deadline and details follow) - Submit your final report (deadline and details follow)	

Feedback

- Weekly feedback: Assistants are available for help on Tuesday and Thursday every week.
- Group report feedback: Will be available (announced on UFORA) after reading the final reports.