Studying principles and guidelines

Antti Punkka
Presentation *0*
17.9.2021

MS-E2191 Graduate Seminar on Operations Research
Fall 2021

Basic info

3-hour meetings on Fridays here in U264

- Student presentations
- Discussion

Teacher

- Prof. Antti Punkka, antti.punkka@aalto.fi, 050 353 3270, Y218
  - Yes, phone / whatsapp can be used too
  - Student of such a seminar course in 2002 and 2003
  - Teacher of such a seminar course in 2011-2013 and 2019-2020

Study format: seminar

Seminar

- Students give presentations on given topics
- Learning based to big extent on the class room discussions – be active!
- Presentations evaluated by both the teacher and the students

Weekly 3-hour seminar meetings

- Two presentations of 45 min
- Discussion on the presentation topics
- Last meeting's home assignments' model solutions

It is very advisable to take a look at the presentation background materials before the seminar meeting!

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Course workload & timetable

The total number of presentations and consequently the number of seminar meetings depends on the number of students

- Each student gives a presentation (~ 24 h)
- 9 meetings (~27 h)
- Getting familiar with the topics before the meetings (~30 h)
- Preparing to act as an opponent (~5 h x 2 = ~10h)
- 16 home assignments (~24 h)

The timetable and the topics for at least the 10 first presentations will be posted on the MyCourses pages by 24.9.

- Changes are difficult after publishing the timetable

Course material

Background material for each presentation will be announced on the MyCourses site

- **A few text books**
  - Available for a short loan from the teacher
- **Scientific articles**
  - + High-quality
  - + Applications & different views on the seminar's topic
  - − Notation differs from paper to another
  - − Some papers mathematically very difficult
  - − Typically only parts of the material are relevant for the presentation

Getting the material: http://scholar.google.fi/

Works easiest from Aalto's computers

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About the presentations

45 min presentation time

- 20 slides is already a lot!!
- Use of blackboard / whiteboard to complement slides often a good idea
- Practice your presentation to control your time usage

Use the slide template from the seminar's MyCourses site

Prepare your material in English

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About the presentations

Focus on your topic, not on making a recap of the material

- Remember your audience = "you before getting familiar with the topic"
  - *What do they already know?*
  - *Why are they here?*
- Note that scientific articles are positioned to existing literature
  - *Not typically needed in these presentations – position to earlier presentations!*
- What is my topic? Which parts of my material are (ir)relevant?

20 slides is already a lot

Small examples and figures are illustrative and help your fellow students in understanding

About the presentations

ALL references must be cited to (on the slides)

- Add a list of references as the last slide before your home assignment
- Referring to earlier presentations helps the audience
  - *"This resembles the algorithm in Simopekka's presentation in that ..."*
  - *"Last time Niinaminna focused on ... Today's topic differs from that setting by considering..."*

Name your presentation slide file *mmdd_surname.pptx* (e.g. *0917_Punkka.pptx*)

- Email the slides to the teacher before 2 pm of the preceding Wed
- ~~Print handouts to the audience~~

Greetings from students of earlier seminars

"What pieces of advice would you give to future students of such seminars?"

- *"Start preparations <mark>well in advance</mark> by at least reading through your material…"*

- *"<mark>Prepare</mark> to ask questions and give constructive feedback to your fellow students."*

- *"Remember to <mark>practice</mark> presenting. Have a <mark>plan</mark> before starting to build the presentation"*

- *"<mark>Start preparing</mark> your presentations early <mark>enough</mark> and don't neglect <mark>practicing ahead</mark> of time…"*

- *"<mark>Aloita</mark> diojen teko <mark>ajoissa</mark>."*

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Troubles in preparing your presentation?

You have difficulties in understanding your background material

- *Solution 1: Read earlier presentations' background material*
- *Solution 2: Check the material your background material cites to*

You don't understand how your material is related to your topic

- *Solution 1: Re-read your material one more time*
- *Solution 2: Familiarize yourself with earlier presentations' materials*
- *Solution 3: Contact the teacher*

You should submit your presentation material in 2 days, but you've never been more lost

- *Solution: Visit Y218*

You forgot to prepare your presentation

- *Solution: -*

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Acting as an "opponent"

Read carefully the background material of the presentation

Prepare a few questions or discussion openings

Be prepared to answer questions related to the presentation topic

Your task is to _help_ the presenter and participate in the discussion (rather than find weaknesses in the presentation)

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Home assigments

Prepare a home assignment and present it on the last slides

- Related to the your topic, solvable in 1-1.5 hours
- E.g., paper+pen / Matlab / Excel / ...

Prepare a model solution, email it to the teacher before 2 pm on the following Wed and prepare to present it on Friday in ~2 mins

Other students will provide their solutions before/in the beginning of the next seminar meeting

- Grade the solutions on a scale from 0-10 and email the results to the teacher before the next seminar meeting

Keep the home assignments simple enough

Home assignment (1/2)

1. Write a Matlab program that solves a feasibility problem (of P) under the assumptions that the polyhedron $P = \{x \in \Re^n \mid Ax \geq b\}$ is bounded and either empty or full-dimensional. The elements of A and b are integers. Moreover, specify E_o, V and v as proposed in this presentation (P is bounded, see slide "Specification of V"). Comment your code. To keep the answers consistent with each other (especially in assignment 2), the violated constraint $A_i x \geq b_i$ is chosen so that the row index i is minimized.

You can use the example of this presentation to verify the correctness of your code.

Kotitehtävä 3

Olkoon 95 % VaR-mallin tarkasteluperiodi T=425 päivää. Laske mallin hylkäämisvirheen todennäköisyys muodostamalla 95 %:n luottamusväli N:lle (käytä keskeisen raja-arvolauseen antamaa approksimaatiota).

Excel on hyvä tässä.

Home assignment (2/2)

2. Check whether polyhedron $P = \{x \in \Re^3 \mid Ax \geq b\}$ is empty or not. How many iterations are needed? What is the feasible point after which it is concluded that P is nonempty (in case it is nonempty)? It is strongly recommended to use the outcome of assignment 1.

$$A = \begin{pmatrix} 1 & 0 & 0 \\ 0 & 1 & 0 \\ 0 & 0 & 1 \\ -1 & -1 & -1 \\ 2 & 0 & -1 \\ 6 & -4 & 1 \end{pmatrix} \quad b = \begin{pmatrix} 1 \\ 1 \\ 1 \\ -10 \\ 0 \\ 3 \end{pmatrix}$$

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Teknillinen korkeakoulu
Esitelmä 4 - Antti Punkka
Optimointiopin seminaari - Kevät 2002 / 14

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Teknillinen korkeakoulu
Antti Punkka
Postgraduate Seminar in Applied Mathematics - Fall 2003 / 43

Presentation related DLs on one slide

Email slides	Presentation	Email model solution	Present model solution	Email home assignment grades
Wed by 2 pm	Friday	Wednesday	Friday	Thursday
$t=T-2$	$t=T$	$t=T+5$	$t=T+7$	$t=T+13$

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Grading principles: presentation 50 p

Minimum requirement: presentation successfully given

Your fellow students grade your presentation on a few attributes and overall + give you spoken and written feedback

The teacher acknowledges the students' grades and feedback in your presentation grade on scale 1-5

Final points for presentation = 10 x presentation grade

Grading principles: other 50 p
these will be confirmed after the number of students is known

Participation (attendance): max 6 p, min requirement ~80% -> 0p

Home assignments: max 30 p, min requirement 15 p
- **Total points scaled linearly onto [0, 30]**

Acting as an opponent: max 10 p
- **Teacher's subjective assessment**

Course feedback 4 p

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Next steps

"Attendance list"

- **Present yourself with a few sentences**
- **Mark Fridays which are not feasible for you to give a presentation or act as an "opponent" (if any)**

VOLUNTEERS TO GIVE A PRESENTATION NEXT FRIDAY on

1. **"Additive value functions: attribute-specific value functions, conditions required, attribute weights, elicitation"**
2. **"Additive-linear portfolio value function: theory and an application"**

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Covid-situ can influence your possibilities to physically attend seminar meetings

You know better than anyone else when to stay home

In these cases, there is an opportunity to participate in ZOOM,

BUT INFORM THE TEACHER IN ADVANCE!

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Other practicalities

First presenters of the sessions: come 15 min in advance to set up the technical equipment

Which computer do you want to use for the presentation?

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