Systems Engineering Course Research Methods; Information

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Abstract

This module provides information about the course, such as the schedule.

logo
TBD

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status: planned
version: 0

Colophon

This course is a joint development of

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Research Methods Course Pre-assignment

- Determine a topic for the master project

- Position the topic in its context (e.g. in your company, in ongoing projects)

- Discuss the topic with its stakeholders

- Try to formulate the line of reasoning:

  - problem, goal, envisioned solution, rationale, open research questions

Course Schedule

	day 1	day 2	day 3	day 4	day 5
9:00	5 step framework, meta levels	literature why, what, how	homework / data collection, analysis	re-iterate meta-levels	what is a good paper?
	line-of-reasoning	search applicable literature	Analysis of Survey data	*re-iterate research questions how to answer them?*	write an initial abstract
	break		break	break	break
10:00	specific initial problem statement	break	Relate Data and RQs	data validity, bias	discussion, what is the flow in the paper?
	problem exploration	practical search techniques	research methods	discuss validity of the data analysis	annotate the book plan with content and scope keywords
11:00	break	refine search	*re-iterate research design*		
	framing the problem, prepare interviews			lunch	lunch
12:00	lunch	lunch	lunch	reflection and discussion	reflection and discussion
	reflection and discussion	library resources	reflection and discussion	project execution and planning	practicalities, e.g. visualizations, citations
13:00	research questions	reflection and discussion	statistics	break	break
	break	break	Statistical Analysis	make initial project execution plan (PERT)	make a research design diagram
14:00	formulate initial research questions	research design how, what to look for		academic writing, book plan	master project supervision and assessment
	break	initial research design	break		
15:00	feasibility of study	break	ethics, plagiarism, privacy, confidentiality, regulations	break	break
		homework		homework	homework
16:00	reflection and discussion	reflection and discussion	reflection and discussion	reflection and discussion	reflection and discussion

homework

- initial interview and/or survey ⎫ 30%
- initial problem analysis ⎭
- literature survey Body of Knowledge ⎫ 60%
- search secondary data sources ⎭
- read Research Methods paper ⎫ 10%
- elaborate research design ⎭

- continue literature survey ⎫ 50%
- write critic of 2..3 papers ⎭
- identify challenges and risks in problem definition   15%
- make research design more concrete   30%
- make book plan for the course paper   5%

- write a course paper, ca 15 pages
- line of reasoning
- literature survey
- research design
- execution plan
- book plan of final paper

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