

Systems Engineering Course Research Methods; Information

by *Gerrit Muller* University of South-Eastern Norway-NISE

e-mail: `gaudisite@gmail.com`

`www.gaudisite.nl`

Abstract

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

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logo
TBD

Colophon

This course is a joint development of

Kristin Falk

Satya Kokkula

Elisabet Syverud

and Gerrit Muller

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	research methods	re-iterate meta-levels	what is a good paper?
	line-of-reasoning			re-iterate research questions	write an initial abstract
	break	search applicable literature	re-iterate research design	how to answer them?	
10:00	specific initial problem statement	break	break	break	break
	problem exploration	practical search techniques	data collection, interpretation, analysis	data validity, bias	discussion, what is the flow in the paper?
11:00	break		what data, how to obtain?	re-iterate problem exploration	annotate the book plan with content and scope keywords
	framing the problem, prepare interviews	refine search		re-visit interview/survey	
12:00	lunch	lunch	lunch	lunch	lunch
	reflection and discussion	library resources	reflection and discussion	reflection and discussion	reflection and discussion
13:00	research questions	reflection and discussion	statistics for master students, including exercises	project execution and planning	practicalities, e.g. visualizations, citations
	break	break	break	break	break
14:00	formulate initial research questions	research design how, what to look for	what scale to use	make initial project execution plan (PERT)	make a research design diagram
	break	initial research design	how to interpret the data	academic writing, book plan	master project supervision and assessment
15:00	feasibility of study	break	ethics, plagiarism, privacy, confidentiality, regulations	break	break
	reflection and discussion	homework	reflection and discussion	homework	homework
16:00		reflection and discussion	reflection and discussion	reflection and discussion	reflection and discussion
homework	<ul style="list-style-type: none"> initial interview and/or survey initial problem analysis literature survey Body of Knowledge search secondary data sources read Research Methods paper elaborate research design 	<ul style="list-style-type: none"> 30% 60% 10% 	<ul style="list-style-type: none"> continue literature survey write critic of 2..3 papers identify challenges and risks in problem definition make research design more concrete make book plan for the course paper 	<ul style="list-style-type: none"> 50% 15% 30% 5% 	<ul style="list-style-type: none"> write a course paper, ca 15 pages line of reasoning literature survey research design execution plan book plan of final paper