Introduction to Nailing your Thesis

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NYT A01

Course Learning Goals

Learning objectives

- Understand science in general
- Understand the scientific process, including
  - Research process and designs
  - Research methodologies and methods
  - Publications and the scientific community
- Learn how to write a research paper (thesis)

Project objectives

- Learn by performing a small research project

Definition of Science (Working Definition)

Science is the **process of acquiring knowledge** for **correct prediction and reliable outcome.** [DR]

Course Content and Structure

Overview

1. What is science?
2. Scientific research

Theory building

3. Qualitative data analysis
4. Systematic reviews
5. Qualitative surveys
6. Action research
7. Case study research

Theory validation

8. Survey research
9. Controlled experiments

Comprehensive

10. Design science

Academia

11. Academic writing
12. Academic publishing

Skills Required for Course

No particular requirements, but …

- Strong conceptual and analytical thinking

Requirements for Final Theses

From the Bachelor-Prüfungsordnung Informatik (“writing about science”)

- “Die schriftliche Bachelorarbeit soll ein wissenschaftliches Thema aus dem Bereich der Informatik behandeln.”

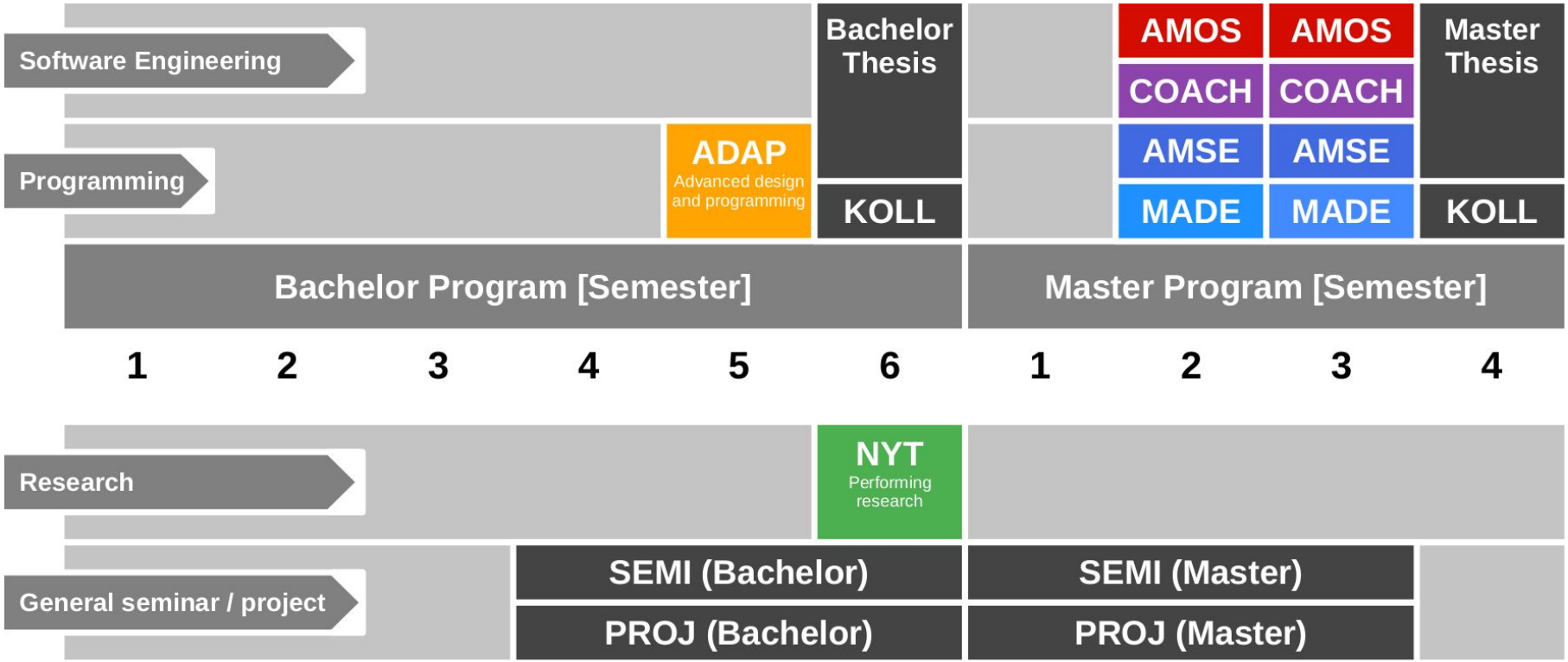
From the Master-Prüfungsordnung Informatik (“applying results of science”)

- “Die Masterarbeit dient dazu, die selbständige Bearbeitung von wissenschaftlichen Aufgabenstellungen der Informatik nachzuweisen.”

From the Promotionsordnung Informatik (“creating scientific progress”)

- “Die Dissertation soll die Fähigkeit des Bewerbers belegen, ingenieurwissenschaftliche Probleme selbständig und mit Erfolg zu bearbeiten und Wege zu ihrer Lösung zu finden.

Course Position in Curriculum



OSS-NYT Courses and Modules

		Courses (Lehrveranstaltungen)		
		NYT-VUE	NYT-PROJ	Total ECTS
Modules	NYT-VUE	x	–	5 ECTS
	NYT-PROJ	–	x	5 ECTS
	NYT-VUE+ PROJ	x	x	10 ECTS

VUE = Lecture + exercise (Vorlesung + Übung)
PROJ = Project

NYT-VUE Grading [1]

Lecture-time contributions = 50% of total grade

- Lecture content (4 SWS) = 60 / 150 = 40% (of semester contributions)
  - Graded using [0..10] each class session using class quizzes
- Method exercises = 90 / 150 = 60% (of semester contributions)
  - Graded using [0..10] using tool and grading rubric

Oral exam = 50% of total grade

- If both you and we agree on not having an oral exam, it can be dropped
  - If you insist on an oral exam, please tell us within two weeks after the last session

[1] See https://oss.cs.fau.de/teaching/course-resources/grading-schemes-and-scales/

Class Quizzes

Each class session starts with a class quiz

- A quiz will test your understanding of last session's topic
- A quiz typically has 5 questions and will last 10 minutes
- The overall quiz is graded using [0..10] scheme (10 points in total)

A class quiz will open precisely when class starts

- The quiz is administered automatically
- It is your job to have reliable Internet access etc.
- There is no way to make up for a missed quiz

Grading Rubric for Homework Submissions

Categories	Points					Criteria
	Disagree	Disagree some	Neutral	Agree some	Agree	
Form (10%)	Does the deliverable meet formal requirements?					Does it meet length requirements, is it written in the right language, etc.?
Language (10%)	Is the language clear, concise, and helpful?					Are sentences complete, is the grammar correct, are statements coherent, etc.?
Structure (20-30%)	Does the deliverable have a clear logical structure?					Does it follow established or suggested structure? Is the argument logical?
Content (50-60%)	Does the discussion touch on all relevant issues?					As a reference, use your own deliverable as well as what you learned in class.

NYT-PROJ Grading

Six submissions and one presentation

1. Paper outline = 5%
2. Related work = 10%
3. Contributions 1 = 5%
4. Contributions 2 = 10%
5. Paper draft = 15%
6. Final paper = 40%
7. Final presentation = 15%

This Semester's Projects

Let's see… https://nyt.uni1.de

Course Registration vs. Exam Registration

Step 1: Course registration (German: Kursanmeldung)

- Students sign up through the course management system
- You may or may not get in, various rules and regulations apply
- The earlier you sign up, the more likely you are to get in

Step 2: Exam registration (German: Prüfungsanmeldung)

- During the first weeks of the course, you can decide to drop out
- Four weeks (or so) into the semester, you can register for the exam
- After exam registration closes, your decision is binding

Receiving a Grade for the Course

If you want to receive a grade

- You must register through your university's exam registration system
  - **Your degree program may have split the course into two (VL + UE)**
  - **Please check asap that the course is available in your degree program!**

In case of problems, please see

- https://oss.cs.fau.de/teaching/course-resources/course-registration/

Otherwise: No grade

No Oral or Written Exam [1] [2]

[1] If both you and we don’t want to
[2] You still have to register for the course

Course Language [1]

Class

- Lecturer: English
- Student: Choice of German or English

Exercise

- Instructor: English
- Homework: Choice of German or English

Project

- English only

[1] See https://oss.cs.fau.de/2012/03/10/english-or-german-deutsch-oder-englisch/

Course Organization

Course organization

- See https://nyt.uni1.de

Course schedule

- See **Schedule** tab on Course organization doc

Project allocation

- See **Projects** tab on Course organization doc

Work Rhythm

Lecture (class)

- Review of last week (quiz)
- Presentation of this week's topic

Method exercise

- Discussion of articles
- Discussion of homework

Written homework

- See Course organization doc
- Self-organized

Course Communication

Announcements by email

- Through course management system

Questions to teaching team

- Please ask your question in the course forum
- For private questions, use the teaching team email alias

Non-urgent questions will be answered in class

Thank you! Any questions?

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