Digital Engineering
Master’s Degree Program

Gunter Saake
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What is Digital Engineering?
Digital Engineering

= Computer Science + Engineering Discipline

→ Diverse application scenarios
- Robotics
- Autonomous Vehicles
- Smart factory/Smart home
- Intelligent Production

Study Program Structure
Digital Engineering — Structure

- Fundamentals of Computer Science: \( \sum 120 \text{ CP} \)
  \( \geq 15 \text{ CP} \) (or \( \geq 5 \text{ CP}^* \))
  \( \geq 5 \text{ CP} \)
- Fundamentals of Engineering:
  \( \geq 5 \text{ CP} \)
  \( \geq 10 \text{ CP} \)
- Human factors:
  \( \geq 10 \text{ CP} \)
- Methods of Computer Science:
  \( 6 \text{ CP} \)
- Methods of Engineering:
  \( \geq 15 \text{ CP} \)
- Interdisciplinary team project:
  \( 12 \text{ CP} \)
- Specialization:
  \( 30 \text{ CP} \)
- Digital Engineering project:
- Master’s thesis:

(* dependent on your first study degree)
Where to Choose Modules from?

• Module list:

1. Go to https://www.inf.ovgu.de/
2. Click on Examination Office, on the next page click on Study Regulations
3. There you find everything you need (see screenshot next page)
   • Module list
   • Module catalogue
   • even the (most recent) study regulations
Where to Choose Modules from?

Some general rules for choosing modules

- Computer Science modules
  - Fundamentals: all courses from FIN Bachelor & Master programs
  - Methods of Computer Science: all courses from FIN Master programs

- Engineering modules
  - Fundamentals: all courses from FEIT/FMB/FVST Bachelor & Master programs
  - Technical Specialization: all courses from FEIT/FMB/FVST Master programs

- Human factors
  - all courses of Bachelor and Master programs of FHW/FWW

The modules offered in the current term are in the LSF

DO NOT use LSF to map modules to thematic areas!!
First Semester Courses — Example

- For Engineering background
  - Introduction to Computer Science for Engineers
  - Introduction to Software-Engineering for Engineers
  - Introduction to Simulation
  - Algorithm Engineering
  - Database Concepts
- Lectures are given at Summer or Winter term → Distribute them over 1\textsuperscript{st} and 2\textsuperscript{nd} semester
Summer Term — Exemplary Courses

• Introduction to Computer Science for Engineers (if engineering background)

• Principles and Practices in Scientific Working

• Database Concepts (if engineering background)

• Student Conference

• Distributed Control Systems (if computer science background)

• Process Control (if computer science background)
Winter Term — Exemplary Courses

• Introduction to Computer Science for Engineers (if engineering background)

• Principles and Practices in Scientific Working

• Introduction to Simulation

• Electronic Circuits (if computer science background, ask teacher)

• Systems & control (if computer science background, ask teacher)
Choosing Modules to PLAN YOUR STUDIES
Which Engineering Direction?

- Mechanical
- Electrical
- Chemical
- Medical Engineering
- ....
Recommendation: Create a Study Plan

1. Find modules:
   - Review modules offered according to the LSF
     https://lsf.ovgu.de/qislsf/rds?
     state=wtree&search=1&trex=step&root120152=10640|10594|10813|10481&P.vx=kurz
   - read module descriptions (web pages) AND
   - drop by at the first one or two meetings (if no limits)
   - Make sure you have the background needed to attend the course – ASK the teacher if you are not sure

2. Assign modules you choose to thematic areas
   - Go through the module catalog/module list
Recommendation: Create a Study Plan (cont’d)

3. Write down your plan

4. Update your plan at the end of each semester!
   • What do you have accomplished?
   • additional courses?
   • something skipped?
   • It’s all fine to skip courses, but you should keep track of what you got ;)

Personalized Plan of Studies
## Personal Plan of Studies

<table>
<thead>
<tr>
<th>Thematic Area</th>
<th>Semester</th>
<th>Module</th>
<th>CP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fundamentals of Computer Science</td>
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<td>...</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>3. ...</td>
<td>...</td>
</tr>
<tr>
<td>Methods of Engineering</td>
<td>2</td>
<td>1. ...</td>
<td>...</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>3. ...</td>
<td>...</td>
</tr>
<tr>
<td>Human Factors</td>
<td>1</td>
<td>1. ...</td>
<td>...</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>2. ...</td>
<td>...</td>
</tr>
</tbody>
</table>
Important Notes on Modules

• Each module is initially **optional** ⇒ you are free to choose a module you want (according to the DE master program structure, cf. slide 5)

• After taking the first exam in a module, it becomes **mandatory** ⇒ you need to finish this module!

• Decisions on thematic areas of modules are done when registering for the exam

• Do not place modules in *Additional Achievements (zusätzliche Leistungen)* ⇒ credits won’t count…never ever!
Examinations
Examinations for Master Students

- Each module must be completed with an exam
- What types of exam are there?
  - Oral examination – mündliche Prüfung
  - Written examination – Klausur
  - Homework – Hausarbeit
- Type of exam depends on module → ASK TEACHER
Examinations for Master Students

- When planning the 1st exam for a course, **BEWARE**
  - NO automatic enrollment – YOU must take action!
  - There are enrollment deadlines; if you miss a deadline, you cannot enroll
  - You can cancel an enrollment until 7 days before exam.
  - *Never register for an examination where you have not attended the lecture!*

- **BEWARE**
  - At most three tries per course.
  - You can have three tries for three courses total. For all other courses you have two tries.
  - *You have only ONCE the chance to step back from the exam of a course!*
Getting Advice
The ultimate landing page with lots of information goes here…

http://www.inf-international.ovgu.de
Even more (specific) information for Incoming Students

You can get Advice from…

1. Studies Coordinators

• Prof. Gunter Saake
  Office: G29-110
  E-Mail: saake@iti.cs.uni-magdeburg.de

• Prof. Sebastian Stober
  Office: G29-007
  E-Mail: stober@ovgu.de
You can get Advice from…

1. Studies Coordinators

2. Coordinator for DE projects
   - Hannah Muth
     E-Mail: hannah.muth@ovgu.de

3. International Relationships and Exchange Coordinator
   - Dr. Claudia Krull
     Office: G29-214
     E-Mail: claudia.krull@ovgu.de
You can get Advice from...

1. Studies Coordinators
2. Coordinator for DE projects
3. International Relationships and Exchange Coordinator
4. Examination Office
   Office: FIN building, room 101/102
   Web: http://www.inf.ovgu.de/pamt.html
5. FaRaFIN
   Email: post@farafin.de
   Web: www.farafin.de
You can get Advice from…

1. Studies Coordinators
2. Coordinator for DE projects
3. International Relationships and Exchange Coordinator
4. Examination Office
5. FaRaFIN
6. Other DigiEng students/Mentors
7. DigiEng Facebook Group
   - https://www.facebook.com/groups/223056807855119/