Welcome Meeting for Master’s Students

Faculty of Computer Science and Mathematics
Monday, 12 April 2021
Introduction

- Prof. Dr. Tobias Kaiser, Dean
- Prof. Dr. Ignaz Rutter, Vice Dean
- Prof. Dr. Matthias Brandl, Dean of Studies
- Dr. Robert Offinger, Faculty Manager
- Wolfgang Mages, International Coordinator
- International Student Assistants
- FSinfo Student Committee
- Luise Haack, iStudi Coach

12 April 2021
Faculty of Computer Science and Mathematics
Agenda

• Coronavirus Implications
• German Language Skills
• Study and Examination Regulations:
  – M.Sc. Computer Science
  – M.Sc. Computational Mathematics
• Course Enrolment and Examinations
• New Professors and Stand-In Professors
• Support for International Master‘s Students
• Questions and Answers

12 April 2021
Coronavirus Implications

- Summer semester will not count towards maximum duration of study or minimum ECTS-point requirement.
- Most courses in the summer semester will be taught online, examinations may require students‘ presence on campus.
- If you are uncertain whether you can be in Passau for an examination, please cf. information on Stud.IP or consult the lecturer before you sign up.
- Failed attempts will most likely not be considered.
- Please follow the University‘s coronavirus updates at https://www.uni-passau.de/en/coronavirus.

12 April 2021
Faculty of Computer Science and Mathematics
Basic German-Language Skills

If you did not have proof of German-language skills when you enrolled in the programme, you are required to complete a compulsory German course during the first year of study at level A1 CEFR or higher (proof of skills necessary at the end of the first year of study).
Study and Examination Regulations

Master’s Programme Computer Science
About the Programme: Structure

• You can put together your individual curriculum
• All offered modules and courses (but compulsory seminar and presentation of master’s thesis) are assigned
  – to one respective focus area or
  – to “General Area”
• You should choose one focus area as your specialisation
• Language restrictions: some focus areas have a greater variety of (English-taught) modules than others, please keep that in mind when choosing your specialisation. However, you may study individual modules from all areas as ‘freely selectable courses’ in accordance with the rules specified below
• If you improve your German proficiency to an extent that you can follow the courses taught in German, you will have the full range of choices in this degree programme
About the Programme: Focus Areas

Five Focus Areas:

1. Information and Communication Systems
2. IT Security and Reliability
3. Intelligent Technical Systems
4. Programming and Software Systems
5. Algorithmics and Mathematical Modeling

Acceptability of courses for credit transfers:
https://www.fim.uni-passau.de/en/study/acceptability-for-credit-transfers
To obtain the degree, you need to accumulate **120 credits** as follows:

- **30 credits for the thesis**, supervised by a professor
- A **minimum of 40 credits from your specialisation** modules (in the chosen focus area)
- A **minimum of 30 credits from modules outside your specialisation** (from other focus areas or from “General Area”)
- One **seminar** (5 credits, typically in the field of your specialisation)
- For the remaining 15 credits, you are **completely free in your choice** of credits (from your specialisation or from any other focus area – including the “General Area” - but only within the programme)
- **German-language skills at level A1** (minimum)
Compulsory Modules

• **Seminars**
  – Aim: specialisation on a research topic and preparation for master’s thesis
  – Not in the 1\textsuperscript{st} or 2\textsuperscript{nd} semester, recommended in the 3\textsuperscript{rd} semester or later
  – Presentation of seminars offered in the next semester at an event toward the end of every semester (**Stud.IP event 6030** in each corresponding semester)
  – Limited number of participants
  – Max. 3 attempts: 3\textsuperscript{rd} fail ultimately irrecoverable (exmatriculation)

• **Master‘s Thesis & Presentation**
  – Usually at the end of your studies (at least 40 ECTS required, recommended at least 60-70 ECTS)
  – Typically in the field of your specialisation
  – Look for potential topics on the pages of the chairs and professorships: [www.fim.uni-passau.de/en/study/theses](http://www.fim.uni-passau.de/en/study/theses)
  – Maximum duration of 6 months for the completion of the thesis (from the day of the supervisor’s confirmation of acceptance until the due date)
  – Max. 2 attempts: 2\textsuperscript{nd} fail ultimately irrecoverable (exmatriculation)
### Sample Curriculum 1

#### Specialisation: focus area Information and Communication Systems

- Implementation of Database Systems (7 credits)
- Text Mining Project (8 credits)
- Web of Things and Services (5 credits)
- Data Science Lab (6 credits)
- Multimedia Databases (7 credits)
- Programming Applications for Mobile Interaction (7 credits)

**Total: 40 (≥40) credits**

#### Outside your specialisation:

**Algorithmics and Mathematical Modelling**
- Computational Logic (7 credits)
- Computer Algebra (9 credits)

**Intelligent Technical Systems**
- Control and Robotics (7 credits)

**IT Security and Reliability**
- Cloud Security (6 credits)
- Dependable Distributed Systems (6 credits)
- Advanced IT Security (6 credits)

**General Area**
- Internship (4 credits)

**Total: 45 (≥30) credits**

<table>
<thead>
<tr>
<th>Master seminar: 5 credits</th>
<th>Thesis: 30 credits</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Overall Total:</strong> 120 (≥120) credits</td>
<td>12 April 2021</td>
</tr>
</tbody>
</table>
### Sample Curriculum 2

**Specialisation: focus area IT Security and Reliability**

- System Security (5 credits)
- Security Insider Lab I (12 credits)
- Wireless Security (5 credits)
- Cloud Security (6 credits)
- Dependable Distributed Systems (6 credits)
- Advanced Security Engineering Lab (12 credits)
- Advanced IT Security (6 credits)

Total: 52 (≥40) credits

**Outside your specialisation:**

**Information and Communication Systems**

- Web of Things and Services (5 credits)
- Foundations of Energy Systems (6 credits)
- Network Science (5 credits)
- Advanced Topics in Data Science (5 credits)
- Multimedia Databases (7 credits)
- Safety and Security of Critical Infrastructures (6 credits)

Total: 34 (≥30) credits

<table>
<thead>
<tr>
<th>Master seminar: 5 credits</th>
<th>Thesis: 30 credits</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Overall Total:</strong> 121 (≥120) credits</td>
<td><strong>Overall Total:</strong> 121 (≥120) credits</td>
</tr>
</tbody>
</table>
Study and Examination Regulations

Master’s Programme Computational Mathematics
Focus Areas:

1. Algebra, Geometry and Cryptography (AGC)
2. Mathematical Logic and Discrete Mathematics (MLDM)
3. Analysis, Numerics and Approximation Theory (ANAT)
4. Dynamical Systems and Optimization (DSO)
5. Stochastics, Statistics (SS)
6. Data Analysis and Data Management and Programming (DADMP)
7. Applications (A)
8. Key Competencies and Language Training (KCLT)
To obtain the degree, you need to accumulate **120 credits** as follows:

- **30 credits for the thesis**, supervised by a professor (typically in the field of your specialisation, usually at the end of your studies)
- **A minimum of 50 credits from the focus areas AGC, MLMD, ANAT, DSO, SS** and in doing so
  - A minimum of 15 credits from AGC, MLMD
  - A minimum of 15 credits from ANAT, DSO, SS
- **A minimum of 10 credits from the focus areas DADMP, A**
- **A minimum of 4 credits from the focus area KCLT**
- Two **seminars** (each 5 credits, typically in the field of your specialisation and not in the first semester)
- For the remaining 16 credits, you are **completely free** in your choice of courses
- **German-language** skills at level A1 (minimum)
Computational Mathematics: Degree Requirements

Core Modules

- Master's Thesis: 27 ECTS
- Presentation of Master's Thesis: 3 ECTS
- 25 Mathematics Seminar 1: 5 ECTS
- 25 Mathematics Seminar 2: 5 ECTS

Total: 40 ECTS

Compulsory Elective Modules

- Module Group 1: Algebra, Geometry and Cryptography
  - Comp. Elective: 5-9 ECTS

- Module Group 2: Mathematics Logic and Discrete Mathematics
  - Comp. Elective: 5-9 ECTS

- Module Group 3: Analysis, Numerics and Approximation Theory
  - Comp. Elective: 5-9 ECTS

- Module Group 4: Dynamical Systems and Optimization
  - Comp. Elective: 5-9 ECTS

- Module Group 5: Stochastics, Statistics
  - Comp. Elective: 5-9 ECTS

- Module Group 6: Data Analysis and Data Management and Programming
  - Comp. Elective: 5-9 ECTS

- Module Group 7: Applications
  - Comp. Elective: 5-9 ECTS

- Module Group 8: Key Competencies and Language Training
  - Comp. Elective: 5-9 ECTS

Total: at least 120 ECTS

- at least 15 ECTS from Module Groups 1+2
- at least 15 ECTS from Module Groups 3+4+5
- at least 10 ECTS from Module Groups 6+7
- at least 4 ECTS

at least 50 ECTS from Module Groups 1+2+3+4+5

12 April 2021  Faculty of Computer Science and Mathematics
### Example for an Individual Curriculum

#### Sample Curriculum

<table>
<thead>
<tr>
<th>Course Group</th>
<th>Courses</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>AGC, MLMD</td>
<td>Cryptanalysis (9 credits)</td>
<td>9</td>
</tr>
<tr>
<td></td>
<td>Cryptography (9 credits)</td>
<td>9</td>
</tr>
<tr>
<td></td>
<td>Mathematical Logic (9 credits)</td>
<td>9</td>
</tr>
<tr>
<td><strong>Total (AGC, MLMD):</strong></td>
<td><strong>27 (≥15) credits</strong></td>
<td></td>
</tr>
<tr>
<td>ANAT, DSO, SS</td>
<td>Partial Differential Equations (6 credits)</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>Operator Theory (9 credits)</td>
<td>9</td>
</tr>
<tr>
<td></td>
<td>Functional Analysis (9 credits)</td>
<td>9</td>
</tr>
<tr>
<td></td>
<td>Learning Theory (9 credits)</td>
<td>9</td>
</tr>
<tr>
<td><strong>Total (ANAT, DSO, SS):</strong></td>
<td><strong>33 (≥15) credits</strong></td>
<td></td>
</tr>
</tbody>
</table>

In total (AGC, MLMD, ANAT, DSO, SS): 60 (≥50) credits

**Master seminar 1:** 5 credits

**Thesis:** 30 credits

#### DADMP, A

<table>
<thead>
<tr>
<th>Course Group</th>
<th>Courses</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Visual Analytics (5 credits)</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>Network Science (5 credits)</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>Advanced Topics in Data Science (5 credits)</td>
<td>5</td>
</tr>
<tr>
<td><strong>Total:</strong></td>
<td><strong>15 (≥10) credits</strong></td>
<td></td>
</tr>
</tbody>
</table>

#### KCLT

<table>
<thead>
<tr>
<th>Course Group</th>
<th>Courses</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Scientific Methods and Technical Writing (5 credits)</td>
<td>5</td>
</tr>
<tr>
<td><strong>Total:</strong></td>
<td><strong>5 (≥4) credits</strong></td>
<td></td>
</tr>
</tbody>
</table>

**Master seminar 2:** 5 credits

**Overall Total:** 120 (≥120) credits
Additional Study Regulations

• Academic progress: requirement to accumulate at least 20 ECTS points after the first semester or 30 ECTS points after the second semester
  ➢ Failure to do so will inevitably lead to exmatriculation

• Plagiarism assessment: declaration of consent with screening of written work (e.g., use of anti-plagiarism software)
  ➢ Zero tolerance for plagiarism (improper citation of sources/authors and origins of copyrighted material/images etc.) or cheating in examinations

Violations will result in course failure or expulsion from the programme!
Course Enrolment and Examinations

Stud.IP

- Sign up only for courses you really intend to take
- Crucial for adequate allocation of resources (suitable lecture halls etc.)
- You should enroll for both lecture (V) and exercise (Ü)

Examinations

- HISQIS examination registration is binding!
- Specific sign-up periods for each faculty, announced each semester by the Examinations Office
- Exceptions in cases of hardship must be reported immediately to the Board of Examiners

12 April 2021
Faculty of Computer Science and Mathematics
New Professor

Prof. Dr. Elif Bilge Kavun
Secure Intelligent Systems

Research Interests:
• Security and Cryptography in Real-World Applications
• Hardware Security

Vita:
• Ph.D. from Ruhr-Universität Bochum in 2015
• Dissertation: “Resource-efficient Cryptography for Ubiquitous Computing: Lightweight Cryptographic Primitives from a Hardware & Software Perspective” (supervised by Prof. Dr. Christof Paar, Chair in Embedded Security)
• Engineering experience (2014-2018) in Munich and San Diego (California, USA)
• Postdoc Lecturer in Cybersecurity (since 2019) at the University of Sheffield (UK), Security of Advanced Systems Research Group (SoAS)
New Professor

Prof. Dr. Florian Lemmerich
Applied Machine Learning

Research Interests:
• Data Science
• Machine Learning
• Computational Social Science

Vita:
• Dr. rer. nat. from the University of Würzburg in 2014
• Dissertation: “Novel Techniques for Efficient and Effective Subgroup Discovery” (supervised by Prof. F. Puppe, Artificial Intelligence and Applied Computer Science)
• Postdoc (2015-2017) in the Data Science team of GESIS (Leibniz Institute for the Social Sciences in Cologne) and lecturer at the University of Koblenz-Landau
• Akademischer Rat at RWTH Aachen University, November 2017

12 April 2021
Faculty of Computer Science and Mathematics
New Professor

Prof. Dr. Christian Hammer
Software Engineering I

Research Interests:
- static and dynamic program analyses
- information flow control
- system security
- program transformation and concurrency control
- compiler technology
- programming languages, paradigms and semantics

Vita:
- Dr. Ing. from Universität Karlsruhe (TH) in 2009 (now Karlsruhe Institute of Technology)
- Dissertation: “Information Flow Control for Java — A Comprehensive Approach Based on Path Conditions in Dependence Graphs” (supervised by Prof. Dr. Gregor Snelting)
- Postdoc Research Associate (2009-2011), Purdue University (Indiana, USA)
- Assistant Professor (2011), Utah State University (Utah, USA)
- Juniorprofessor (2012-2016), CISPA, Saarland University
- Professor (W3) of Software Engineering, University of Potsdam, October 2016
New Stand-In Professors

Prof. Dr. Joscha Prochno
Functional Analysis

Prof. Dr. Larisa Yaroslavtseva
Mathematical Data Science

Prof. Dr. Julia Lieb
Discrete Mathematics

Prof. Dr. John Abbott
Mathematical Logic
Faculty of Computer Science and Mathematics

Stand-In Professors

Prof. Dr. Hans Reiser
*Dependable Distributed Systems*

Prof. Dr. Markus Endres
*Data and Knowledge Engineering*

Prof. Dr. Marco Kuhrmann
*Artificial Intelligence Engineering*

Prof. Dr. Henrich C. Poehls
*Security in Information Systems*

Faculty of Computer Science and Mathematics

12 April 2021
Faculty of Computer Science and Mathematics

The Faculty
Computer Science

Prof. Dr. Michael Granitzer
Data Science

Prof. Dr. Joachim Posegga
IT Security

Prof. Dr. Stefanie Scherzinger
Scalable Database Systems

Prof. Dr. Dirk Sudholt
Algorithms for Intelligent Systems

12 April 2021
The Faculty
Computer Science

Prof. Dr. Hermann de Meer
*Computer Networks & Communication*

Prof. Dr. Matthias Kranz
*Embedded Systems*

Prof. Dr. Stefan Katzenbeisser
*Computer Engineering*

Prof. Dr. Ignaz Rutter
*Theoretical Computer Science*
Faculty of Computer Science and Mathematics

The Faculty
Mathematics

Prof. Dr. Matthias Brandl
Didactics of Mathematics

Prof. Dr. Tomas Sauer
Digital Image Processing

Prof. Dr. Fabian Wirth
Dynamical Systems

Prof. Dr. Tobias Kaiser
Pure Mathematics
The Faculty of Computer Science and Mathematics

Prof. Dr. Thomas Müller-Gronbach  
*Stochastics and Its Applications*

Prof. Dr. Brigitte Forster-Heinlein  
*Applied Mathematics*

Prof. Dr. Jens Zumbrägel  
*Cryptography*

Prof. Dr. Martin Kreuzer  
*Symbolic Computation*

12 April 2021
Support for International Master’s Students

International Coordinator

Wolfgang Mages
Room 239, IT-Zentrum (International House)
Phone: +49 851 - 509 3066
E-Mail: masters@fim.uni-passau.de

International Student Assistants
Ashish, Basma, Laura, Barbara
E-Mail: master-help@fim.uni-passau.de
Faculty’s Student Committee (FSinfo)

We support you in your studies, represent you in university committees, collect and provide old exams, and keep you informed about important dates and deadlines.
Consultation hours
As long as no teaching can be held on campus, our consultation hours are taking place virtually at https://fsinfo.uni-passau.de/videochat.

The schedule will be announced next week via our website and social media.
Please don’t hesitate to approach us in case you face any problems or open questions regarding your studies! 😊

Feel free to give us feedback on teaching in general or on the online teaching in particular.

Office: IM 244 (currently closed)
Mail: fsinfo@uni-passau.de
Homepage: https://fsinfo.fim.uni-passau.de
Chat: https://fsinfo.uni-passau.de/chat

facebook  twitter  instagram  fsinfopassau
Follow-up Q&A session

- Q&A english: stay here
- Q&A german: fsinfo.uni-passau.de/videochat

Why?

Our experience is that the questions of international and local students focus on very different topics. To save you some time, we split the Q&A. Of course you are free to decide which one you want to participate in.
FIM Technical Support

General overview of FIM IT services:
https://www.fim.uni-passau.de/en/it-services/

First Steps - A guide to using the FIM IT services for beginners:
https://www.fim.uni-passau.de/en/it-services/login-and-account/first-steps/
Women’s Representative at the Faculty

Axelle Cheney

The Women’s Representative is responsible for ensuring that no disadvantages arise for female researchers, teaching staff and students.

Contact details:
Axelle Cheney
Room ITZ/IH 246
Innstraße 43
Tel.: +49(0)851/509-3064
Axelle.Cheney@uni-passau.de
https://www.fim.uni-passau.de/en/faculty/womens-representative/

12 April 2021
Faculty of Computer Science and Mathematics
Support for Degree-Seeking Students

iStudi Coach: your central contact person

Coach for international degree-seeking students:

- Individual orientation: whom to ask?
- Network of partners inside and outside the University
- Career coaching and application checks
- Career Orientation Programme: iStudi Pass
- Trainings and workshops on study organisation, intercultural communication and job application skills

Contact details:
Luise Haack
iStudi Coach
Tel.: +49 (0)851 509-1173
Administration Building, VW 106
ZOOM drop-in Wednesday 10-11 am
(access info on my Stud.IP profile page)
istudicoach@uni-passau.de
http://www.uni-passau.de/en/iStudi
iStudi Pass: how does it work?

1. Find all details, registration options and recommended events online: http://www.uni-passau.de/en/iStudiPass

2. Attend at least six training measures from five of the following modules:
   - Job seeking and applications
   - Company networking
   - Intercultural skills
   - German language skills
   - Degree success*
   - Volunteering*
iStudi Pass: how does it work?

1. Register and become a member of our Stud.IP Group

2. Select your programme on http://www.uni-passau.de/en/iStudiPass

→ possible events, e.g.:
   - Presentation of a field of work: Data Scientist, Stud.IP: 65013, May 26
   - The essentials for your career in Germany, Stud.IP: 65202 W, April 20

3. Receive a certificate to convince possible employers that you are well prepared for the German job market
iStudi Pass: why to attend?

„Guys, participate in this programme without any considering! It will broaden your horizons in the field of career in Germany. Attend all events even if you have already a stamp in that particular module!“

„It was simply infotainment (information + entertainment)“

„I would definitely recommend this program for every student considering the fact that I managed to get a job offer with no prior work experience.“

...say international students who have completed the programme.
Thank You for Your Attention!
Any Questions?