

Welcome Meeting for Master's Students



Faculty of Computer Science and Mathematics
Wednesday, 23 April 2025

- Prof. Dr. Gordon Fraser, Dean
- Prof. Dr. Jens Zumbrägel, Dean of Studies
- Dr. Robert Offinger, Faculty Manager
- International Student Assistants
Ashish Ashutosh and Jule Sommer
- FSinfo Student Committee
- Luise Haack, iStudi Coach

- German Language Skills
- Study and Examination Regulations:
 - M.Sc. Computer Science
 - M.Sc. Artificial Intelligence Engineering
 - M.Sc. Computational Mathematics
- Course Enrolment and Examinations
- Computer Science & Mathematics Professors
- Support for (International) Master's Students
- Questions and Answers

Basic German-Language Skills

If you did not have proof of basic German-language skills when you enrolled in the programme, you are required to complete a **compulsory German course at level A1** (CEFR) at the University of Passau's Language Centre during the first year of study (proof necessary after your second semester, at the latest). Participation in higher-level German-language courses is strongly encouraged!



Master's Programme Computer Science



- 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 the “**General Area**”
- The **focus area in which you accumulate the most credits will be your specialization** (cannot be the “General Area”)
- **Language restrictions:** some focus areas contain a number of German-taught modules. If you improve your German-language proficiency to an extent that you can follow the courses taught in German (English-language answers are usually accepted in examinations), you will have the full range of choices in this degree programme

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

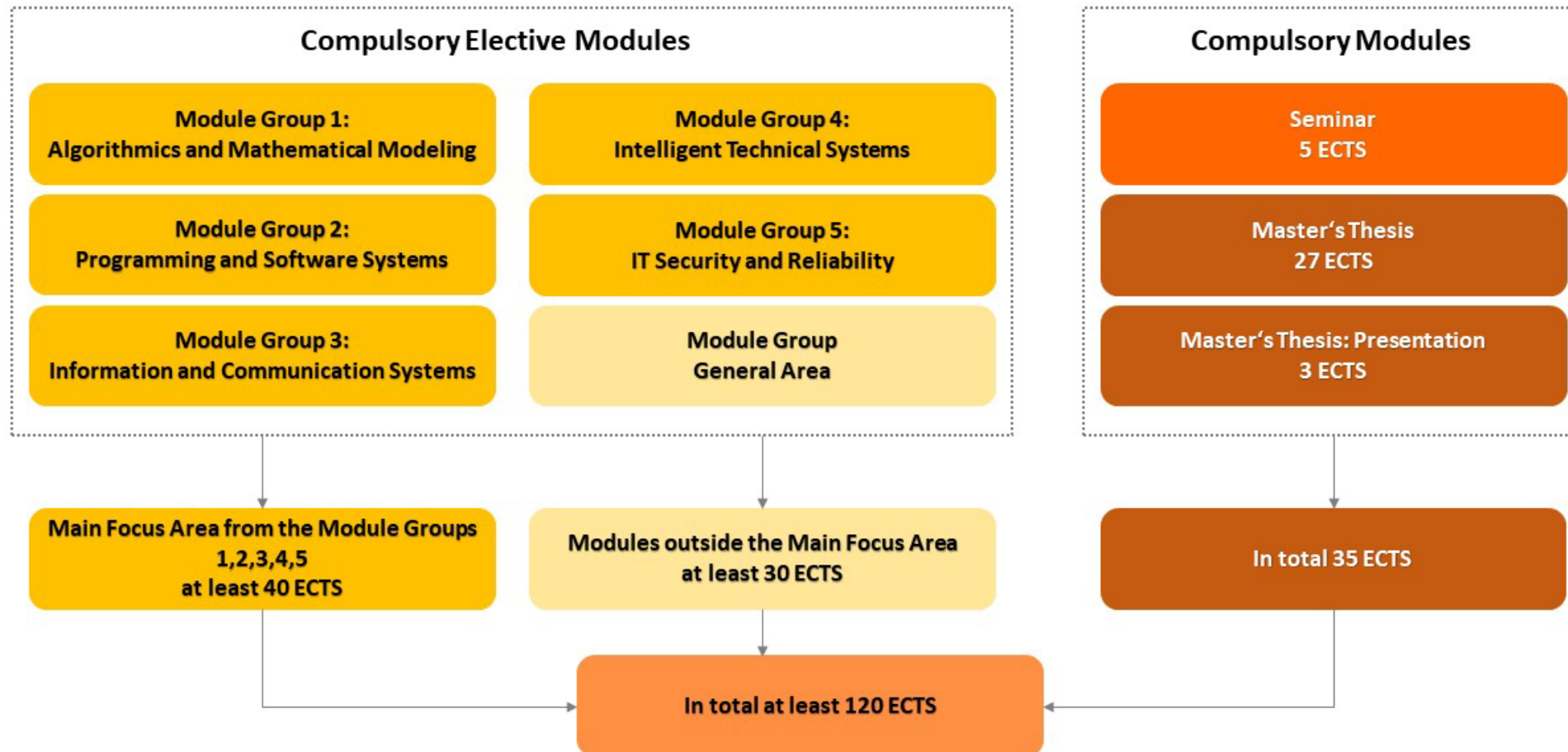
Acceptability of courses for credit transfers:

<https://www.fim.uni-passau.de/en/study/acceptability-for-credit-transfers>

www.uni-passau.de/en/msc-computer-science (cf. [Infosheet](#))

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 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)



Note AStuPO § 9 paragraph 3 sentence 1) and 2)

¹ By the end of the first semester, proof of successful completion of module examinations totalling at least 20 ECTS credits must be submitted.

² If this requirement is not met, a total of at least 30 ECTS credits must be demonstrated by the end of the second semester at the latest.

- **Seminars**

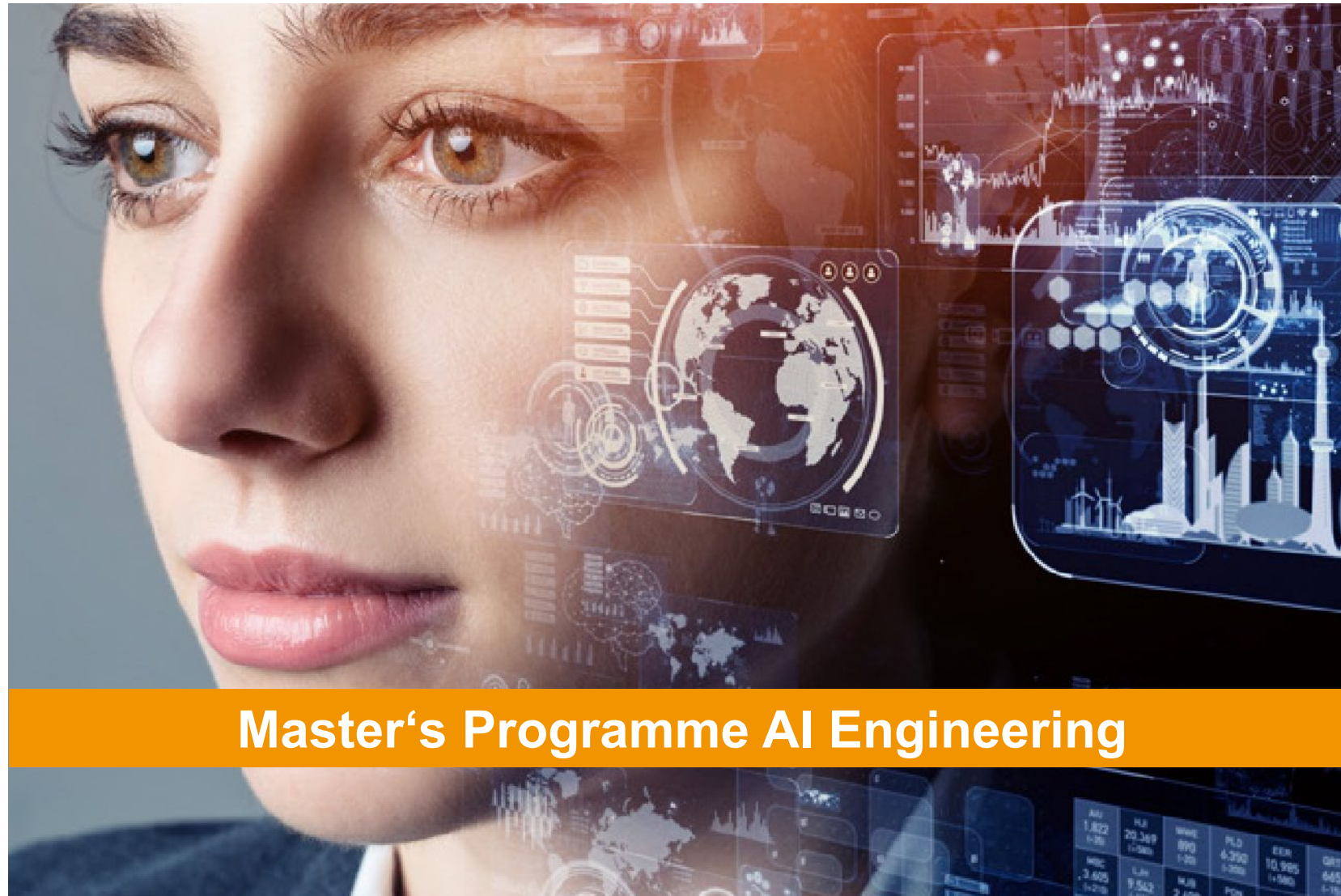
- Aim: specialisation on a research topic and preparation for master's thesis
- Not in the 1st or 2nd semester, recommended in the 3rd semester or later
- Presentation of seminars offered in the next semester at an event toward the end of every semester (**Stud.IP event 6030** in each corresponding semester)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

Sample Curriculum 1, M.Sc. Computer Science	
Specialisation: focus area Information and Communication Systems <ul style="list-style-type: none">• Scaling Database Systems (6 credits)• Introduction to Deep Learning (6 credits)• Management of Scientific Data (6 credits)• Data Science Lab (6 credits)• Multimedia Databases (7 credits)• Advanced Topics in Data Science (5 credits)• Energy Informatics II (6 credits) Total: 42 (≥40) credits	Outside your specialisation: Algorithmics and Mathematical Modelling <ul style="list-style-type: none">• Distributed Algorithms (6 credits)• Computer Algebra (9 credits) Intelligent Technical Systems <ul style="list-style-type: none">• Data Visualization (6 credits) IT Security and Reliability <ul style="list-style-type: none">• Security Insider Lab I – Infrastructure Security (12 credits)• Advanced IT Security (6 credits) General Area <ul style="list-style-type: none">• Internship (4 credits) Total: 43 (≥30) credits
Master seminar: 5 credits	Thesis: 30 credits
Overall Total: 120 (≥120) credits	

Sample Curriculum 2, M.Sc. Computer Science	
<u>Specialisation:</u> focus area IT Security and Reliability <ul style="list-style-type: none">• System Security (5 credits)• Security Insider Lab I (12 credits)• Wireless Security (5 credits)• Hardware-oriented Security (6 credits)• Secure Information Flow (6 credits)• Advanced Security Engineering Lab (12 credits)• Advanced IT Security (6 credits) Total: 52 (≥40) credits	<u>Outside your specialisation:</u> Information and Communication Systems <ul style="list-style-type: none">• Scaling Database Systems (6 credits)• Energy Informatics II (6 credits)• Introduction to Deep Learning (6 credits)• Advanced Topics in Data Science (5 credits)• Multimedia Databases (7 credits)• Management of Scientific Data (6 credits) Total: 36 (≥30) credits
Master seminar: 5 credits	Thesis: 30 credits
Overall Total: 123 (≥120) credits	



Focus Areas:

1. Algorithmic Engineering und Mathematical Modelling (AEMM)
2. Artificial Intelligence Methods (AIM)
3. Artificial Intelligence Systems Engineering (AISE)
4. Artificial Intelligence Applications (AIA)
5. Cross-Cutting Concerns (CCC)
6. Research Seminars (RS)

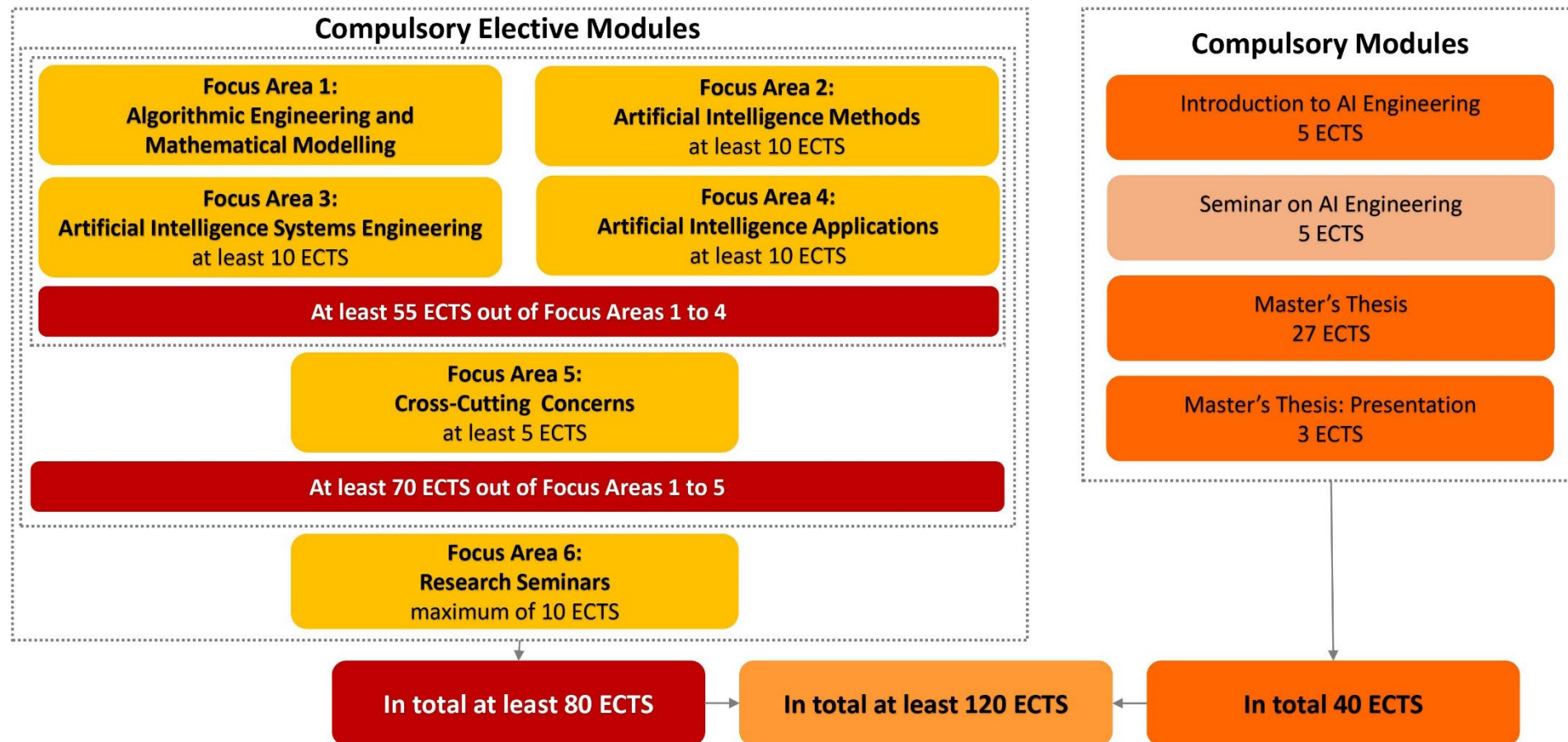
Acceptability of courses for credit transfers:

<https://www.fim.uni-passau.de/en/study/acceptability-for-credit-transfers>

www.uni-passau.de/en/msc-ai-eng (cf. [Infosheet](#))

To obtain the degree, you need to accumulate **120 credits** as follows:

- **30 credits for the thesis**, supervised by a professor
- **5 credits for the core module “Introduction to AI Engineering”**
- **A minimum of 70 credits from all focus areas except RS**
- **A minimum of 55 credits from the focus areas AEMM, AIM, AISE, AIA and in doing so**
 - A minimum of 10 credits from AIM
 - A minimum of 10 credits from AISE
 - A minimum of 10 credits from AIA
 - A minimum of 5 credits from CCC
- **A maximum of 10 credits from the focus area RS**
- **One compulsory seminar** (not in the first semester)
- **German-language** skills at level A1 (minimum)



Note AStuPO § 9 paragraph 3 sentence 1) and 2)

¹ By the end of the first semester, proof of successful completion of module examinations totaling at least 20 ECTS credits must be submitted.

² If this requirement is not met, a total of at least 30 ECTS credits must be demonstrated by the end of the second semester at the latest.

Sample Curriculum 1, M.Sc. AI Engineering

AEMM (Focus Area 1) <ul style="list-style-type: none"> Parameterized Algorithms (6 credits) Computational Logic (7 credits) Total (AEMM): 13 credits	AISE (Focus Area 3) <ul style="list-style-type: none"> Scaling Database Systems (6 credits) AI Engineering Lab (7 credits) Total (AISE): 13 (≥ 10) credits	CCC (Focus Area 5) <ul style="list-style-type: none"> IT Security Law (5 credits) Organizational and Competitive Strategy (5 credits) Total (CCC): 10 (≥ 5) credits
AIM (Focus Area 2) <ul style="list-style-type: none"> Learning Theory (9 credits) Data Science Lab (6 credits) Introduction to Deep Learning (6 credits) Total (AIM): 21 (≥ 10) credits	AIA (Focus Area 4) <ul style="list-style-type: none"> Computational Linguistics (6 credits) Multimedia Databases (7 credits) Total (AIA): 13 (≥ 10) credits	RS (Focus Area 6) <ul style="list-style-type: none"> Research Seminar I (5 credits) Research Seminar II (5 credits) Total (RS): 10 (≤ 10) credits
In total (AEMM, AIM, AISE, AIA): 60 (≥ 55) credits		
In total (AEMM, AIM, AISE, AIA, CCC): 70 (≥ 70) credits		
In total (AEMM, AIM, AISE, AIA, CCC, RS): 80 (≥ 80) credits		
Master seminar: 5 credits		Introduction to AIE: 5 credits
Thesis: 30 credits		Overall Total: 120 (≥ 120) credits

Sample Curriculum 2, M.Sc. AI Engineering

AEMM (Focus Area 1)

- Computational Logic (7 credits)
- Parametrized Algorithms (6 credits)
- Randomised Algorithms (7 credits)

Total (AEMM): 20 credits

AIM (Focus Area 2)

- Data Science Lab (6 credits)
- Advanced Topics in Data Science (5 credits)
- Applied Artificial Intelligence Lab (6 credits)

Total (AIM): 17 (≥10) credits

AISE (Focus Area 3)

- Advanced IT Security (6 credits)
- Search-Based Software Engineering (5 credits)
- Scaling Database Systems (6 credits)

Total (AISE): 17 (≥10) credits

AIA (Focus Area 4)

- Energy Informatics II (6 credits)
- Computational Statistics – Regression in R (3 credits)
- Econometric Methods (5 credits)

Total (AIA): 14 (≥10) credits

CCC (Focus Area 5)

- Fundamentals of Digitalization and Digital Trends (5 credits)
- Strategy for High-Tech Startups (5 credits)

Total (CCC): 10 (≥5) credits

RS (Focus Area 6)

- Research Seminar I (5 credits)

Total (RS): 5 (≤10) credits

In total (AEMM, AIM, AISE, AIA): 68 (≥55) credits

In total (AEMM, AIM, AISE, AIA, CCC): 78 (≥70) credits

In total (AEMM, AIM, AISE, AIA, CCC, RS): 83 (≥80) credits

Master seminar: 5 credits

Introduction to AIE: 5 credits

Thesis: 30 credits

Overall Total: 123 (≥120) credits

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)

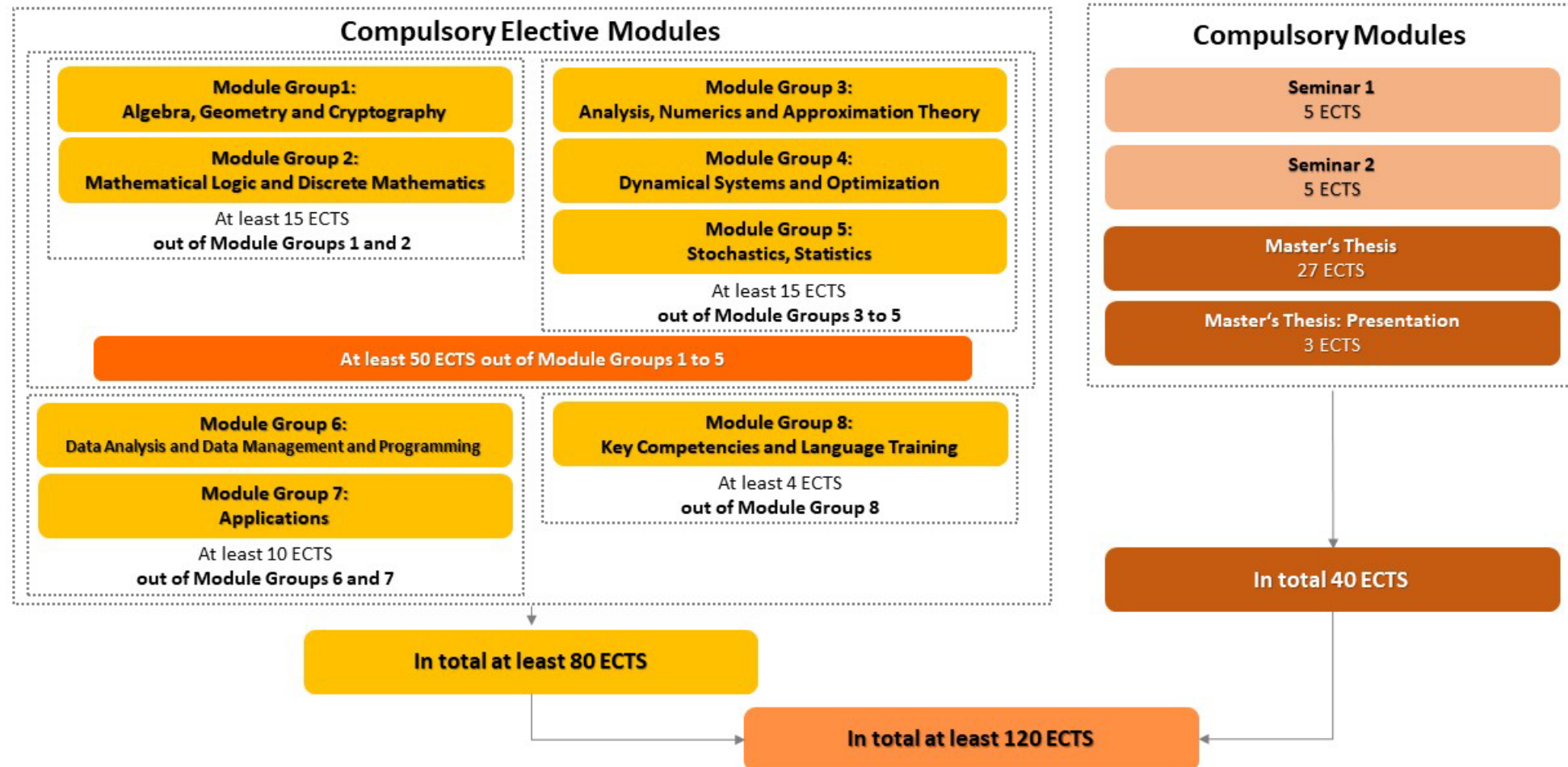
Acceptability of courses for credit transfers:

<https://www.fim.uni-passau.de/en/study/acceptability-for-credit-transfers>

www.uni-passau.de/en/msc-compmaths (cf. [Infosheet](#))

To obtain the degree, you need to accumulate **120 credits** as follows:

- **30 credits for the thesis**, supervised by a professor
- **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** (5 credits each, 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)



Note ASTuPO § 9 paragraph 3 sentence 1) and 2)

¹ By the end of the first semester, proof of successful completion of module examinations totalling at least 20 ECTS credits must be submitted.

² If this requirement is not met, a total of at least 30 ECTS credits must be demonstrated by the end of the second semester at the latest.

Sample Curriculum, M.Sc. Computational Mathematics	
AGC, MLMD <ul style="list-style-type: none">• Cryptanalysis (9 credits)• Cryptography (9 credits)• Mathematical Logic (9 credits) Total (AGC, MLMD): 27 (≥ 15) credits	DADMP, A <ul style="list-style-type: none">• Efficient Algorithmus (7 credits)• Randomised Algorithms (7 credits)• Introduction to Deep Learning (6 credits) Total: 20 (≥ 10) credits
ANAT, DSO, SS <ul style="list-style-type: none">• Operator Theory (9 credits)• Functional Analysis (9 credits)• Learning Theory (9 credits) Total (ANAT, DSO, SS): 27 (≥ 15) credits In total (AGC, MLMD, ANAT, DSO, SS): 54 (≥ 50) credits	KCLT <ul style="list-style-type: none">• Deutsch als Fremdsprache (5 credits)• Management of international projects (1 credit) Total: 6 (≥ 4) credits
Master seminar 1: 5 credits	Master seminar 2: 5 credits
Thesis: 30 credits	Overall Total: 120 (≥ 120) credits

(applicable in all master's degree programmes)

- 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!

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

- EXA (Campus Portal) 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 to the Board of Examiners immediately (**before** examinations)



The Faculty Computer Science

Prof. Dr. Christian Hammer
Software Engineering I



Prof. Dr. Gordon Fraser
Software Engineering II



Prof. Dr. Florian Lemmerich
Applied Machine Learning

The Faculty Computer Science



Prof. Dr. Joachim Posegga
IT Security

Prof. Dr. Michael Granitzer
Data Science



Prof. Dr. Dirk Sudholt
Algorithms for Intelligent Systems

Prof. Dr. Stefanie Scherzinger
Scalable Database Systems





The Faculty Computer Science

Prof. Dr. Hermann de Meer
Computer Networks & Communication



Prof. Dr. Stefan Katzenbeisser
Computer Engineering



Prof. Dr. Ignaz Rutter
Theoretical Computer Science



The Faculty Computer Science



Prof. Dr. Harald Kosch
Distributed Information Systems



Prof. Dr. Steffen Herbold
AI Engineering

Prof. Dr. Annette Hautli-Janisz
*Computational Rhetoric and
Natural Language Processing*



Prof. Dr. Christoph Heinzl
Cognitive Sensor Systems





Stand-In Professors Computer Science



Prof. Dr. Tolga Arul
Reliable Distributed Systems



Prof. Dr. Gerold Hölzl
Embedded Systems

Prof. Dr. Alsayed Algergawy
Data and Knowledge Engineering



The Faculty Mathematics



Prof. Dr. Matthias Brandl
Didactics of Mathematics



Prof. Dr. Fabian Wirth
Dynamical Systems

Prof. Dr. Tomas Sauer
Digital Image Processing



Prof. Dr. Tobias Kaiser
Pure Mathematics



The Faculty Mathematics



Prof. Dr. Brigitte Forster-Heinlein
Applied Mathematics



Prof. Dr. Martin Kreuzer
Symbolic Computation

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



Prof. Dr. Jens Zumbrägel
Cryptography





The Faculty Mathematics



Prof. Dr. Joscha Prochno
Functional Analysis

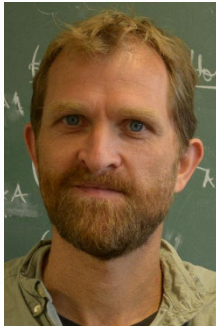


Prof. Dr. Stefan Glock
Discrete Mathematics



Prof. Dr. Daniel Rudolf
Mathematical Data Science

The Faculty Mathematics



Prof. Dr. Tobias Harks
Mathematical Optimisation

Prof. Dr. Moritz Müller
Mathematical Logic



International Student Assistants



E-Mail: mahelp@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.

Please don't hesitate to approach us in case you face any problems or open questions regarding your studies!☺

Office: IM 244

Phone: 0851/509-3004

Mail: fsinfo@fim.uni-passau.de

Homepage: <https://fsinfo.uni-passau.de>

Stud.IP: <https://fsinfo.uni-passau.de/studip>

Chat: <https://fsinfo.uni-passau.de/chat>

   **fsinfopassau**

iStudi Coach: your central contact person for non-academic questions

We provide international degree-seeking students with:

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

Contact details:
Luise Haack
iStudi Coach

Administration Building, VW 106
Drop-in Wednesday mornings
(access info and slots on L. Haack's Stud.IP profile page)

istudicoach@uni-passau.de
<https://www.uni-passau.de/en/iStudi>
Instagram: @unipassau.international



- **What?:** A career orientation programme to prepare for the German job market
- **For whom?:** International degree-seeking students
- **How?:** You complete various modules designed to develop your skills
- **When?:** From now on! Register through the website.

<https://www.uni-passau.de/en/istudi/pass>

Module A



Job seeking & applications

Module B



Company networking

Module C



Intercultural skills

Module D



German language skills

Module E



Degree success

Module F



Volunteering

iStudi Pass: how does it work?

- ✓ Register online and select events:
<https://www.uni-passau.de/en/iStudi/Pass>
- ✓ We add you to a Stud.IP group (updates, events)
- ✓ Each semester, select your individual activities from our suggestions to complete six modules. Coming up, e.g.:
 - Volunteering with All You Can Do (register by 27 April)
- ✓ Receive a certificate to showcase that you are ready to enter the German job market.



Our Recommendations for FIM students

- **The essentials for your career in Germany, Stud.IP: 65202**

We recommend to also attend the in-depth workshops on CVs (65204) and job interviews (65026). Tuesday, 06.05.2025
18:00 - 20:00

- **Career Talk with Holidu – Career in a travel tech Scale-up, Stud.IP: 65051, Tuesday, 13.05.2025 18:00 - 20:00**
- **Intercultural Competence: Germany, StudIP: 61093, Saturday, 12.07.2025 09:00 - 17:00, (WIWI) SR 033**
- **Academic Writing for Students of the Faculty of Computer Science and Mathematics, Stud.IP: 62035, Saturday, 14.06.2025, 09:00 - 17:00, Location: (WIWI) SR 033**

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 completed 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.





www.uni-passau.de/en/degrees

Studienberatung


 UNIVERSITÄT
PASSAU


Your degree programme

Studiengang der Wirtschaftswissenschaftlichen Fakultät
Die Inhalte der Infoschrift beziehen sich auf einen Studienbeginn ab Wintersemester 2023/24 (**Version 2023**).

Inhalt

Informationen für Studienanfängerinnen und -anfänger	2
Module, Modulkatalog, Lehrveranstaltungen, Gesamtnotenberechnung	2
Modulübersicht	2
Modulbereich A: Grundlagen	3
Modulbereich B: Schwerpunkt Wirtschaftsinformatik	4
Modulbereich C: Vertiefung	5
Modulbereich D: Wirtschaftsfremdsprache Englisch	9
Modulbereich E: Seminar	10
Bachelorkolloquium	10
Während des Studiums	10
Auslandsaufenthalt	10
Bachelorarbeit	10
Studienabschluss	10
Schlüsselkompetenzen und Karriereplanung	11
Zusatzqualifikationen und Zertifikate	11
Wichtige prüfungsrechtliche Bestimmungen	11
Studien- und -prüfungsordnungen / Modulkatalog	11
Fristüberschreitung nach dem 2. bzw. 3. Semester	11
Regelstudienzeit / Höchststudiendauer	11
Wiederholung von Prüfungsleistungen wegen Nichtbestehens	12
Wiederholung von Prüfungsleistungen zur Notenverbesserung	12
Anerkennung von Prüfungsleistungen	12
Krankheit / Prüfungsunfähigkeit	12
Nachteilsausgleich	12
Service- und Beratungsstellen	13
Musterstudienpläne	14

 [Webseite des Studiengangs](#)
Informationen für Studieninteressierte

Infoschrift als PDF 

Modules

e.g. Master's thesis

e.g. Examination related rules and regulations

Stand: 07/24

We offer individual consultations and can support you with topics such as:

- **General questions or difficulties during your studies** – for example, if you realize you may not reach the required 30 ECTS credits by the end of your second semester
- **Questions about organizing your degree programme**
- **Support with decision-making when you're feeling stuck**

Our service is independent, free of charge, and we are not involved in grading.

www.uni-passau.de/en/academic-advice



Academic adjustments are special accommodations that compensate for disadvantages resulting from a candidate's disability, chronic illness, or mental health condition.

Examples:

- Extension of deadlines
- Extra time for oral and written examinations, deadline extensions for term papers, theses and dissertations
- Change of exam type: oral exam instead of written exam or vice versa; individual examination instead of group examination

www.uni-passau.de/en/disability-support/academic-adjustments



- **Academic Advice Service**
www.uni-passau.de/en/academic-advice
- **Student Disabilities Officer**
Dr. Ulrike Bunge
www.uni-passau.de/en/disability-support/
- **Psychological-Psychotherapeutic Counselling Centre**
Dr. Lisa Huber-Flammersfeld
Tanja Obermüller
www.uni-passau.de/en/psychological-counselling

Administration building, Innstraße 41, 1st floor



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/>

Create a FIM account to get access to the FIM IT services (for instance FIM lab PCs):

<https://www.fim.uni-passau.de/en/it-services/login-and-account/fim-accounts/>



**Thank You for Your Attention!
Any Questions?**