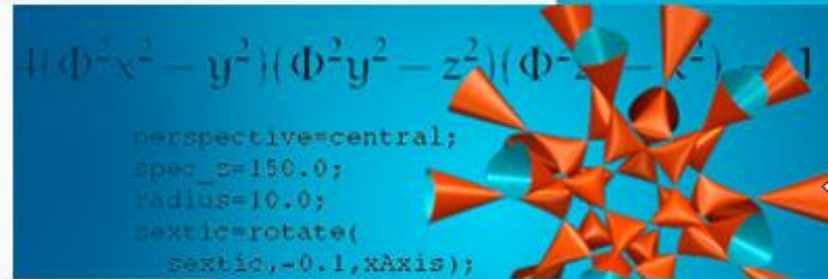



Introduction Master Study Programs: Informatics, Data Science, Business Informatics, Mathematics and Business Mathematics

Winter Semester 2024/25

Prof. Christoph Bockisch



[ this presentation is recorded]

Study Advice

The department's study advisors are happy to help you individually:



Prof. Welker
(**Mathematics**)



Prof. Holzmann
(**Business Mathematics**)



Prof. Bockisch
(**Computer Science**)



Prof. Tischhauser
(**Business Informatics**)



Prof. Seifert
(**Data Science**)

Further information and services:
<https://uni-marburg.de/Y8Kj31>



Studying with special needs
<https://uni-marburg.de/LI9YDB>



Rules / Constraints for Study Programs

- When in doubt, refer to examination regulations
 - Only German version is legally binding
 - But the German web page also links to translations:
<https://uni-marburg.de/Zb2vX0>
- Readable description of programs on department web page:
<https://www.uni-marburg.de/en/fb12/studying/degree-programs>
- Select your study program under “Master Degrees”
 - In this presentation **“Computer Science”** is chosen exemplarily
 - Some specialities of other programs are highlighted
 - Ask if you have questions specific to other programs!
- Mainly important for active students: “Study Structure”



Rules / Constraints for Study Programs



- Study Composition
 - Different study areas with requirements
 - The area “Profile Area Modules” is optional
 - When chosen: must complete 12 credits from **one profile area**
 - Profile Area modules may only be available in German
 - In “Practical and Seminar Modules” you **must pick one** seminar and optionally **may pick a second** seminar
 - In the “Compulsory Electives”
 - Pick depending on the optional choices:
 - 51 credits – if you choose a **profile area** and **two** seminars
 - 54 credits – if you choose a **profile area** and **one** seminar
 - 63 credits – if you choose **no profile area** and **two** seminars
 - 66 credits – if you choose **no profile area** and **one** seminar
 - At least one module each from theoretical and practical CS (specific to only this study program)
 - At most 18 credits from “advanced modules”

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Refers to level of module. “Advanced” in general indicates belonging to Bachelor program for (compulsory elective) modules of the department. CE modules belonging to a Master program, generally have level “Specialization”.

Rules / Constraints for Study Programs

- Study Composition
 - Similar for other study programs; main differences:
 - Optional “Application Area” with 18-24 credits
 - Also up to two seminars (pay attention to maximum credits in area) (DS) 
 - Up to two seminars
 - Up to 9 credits in Mathematics modules (including a maths module is recommended)
 - (At least) One seminar must be taken at the department (“Computer Science and Mathematics” or “Economics”) in which the Master’s thesis is written. (BI) 

Rules / Constraints for Study Programs

- Study Composition
 - Similar for other study programs; main differences:
 - Optional “Profile Area” with 18 credits
 - At least 18 credits in Pure Mathematics and 12 credits in Applied Mathematics
 - Industrial Internship is mandatory if not already done in Bachelor
 - At most *two* modules with level “advanced”

(Maths) 

Rules / Constraints for Study Programs

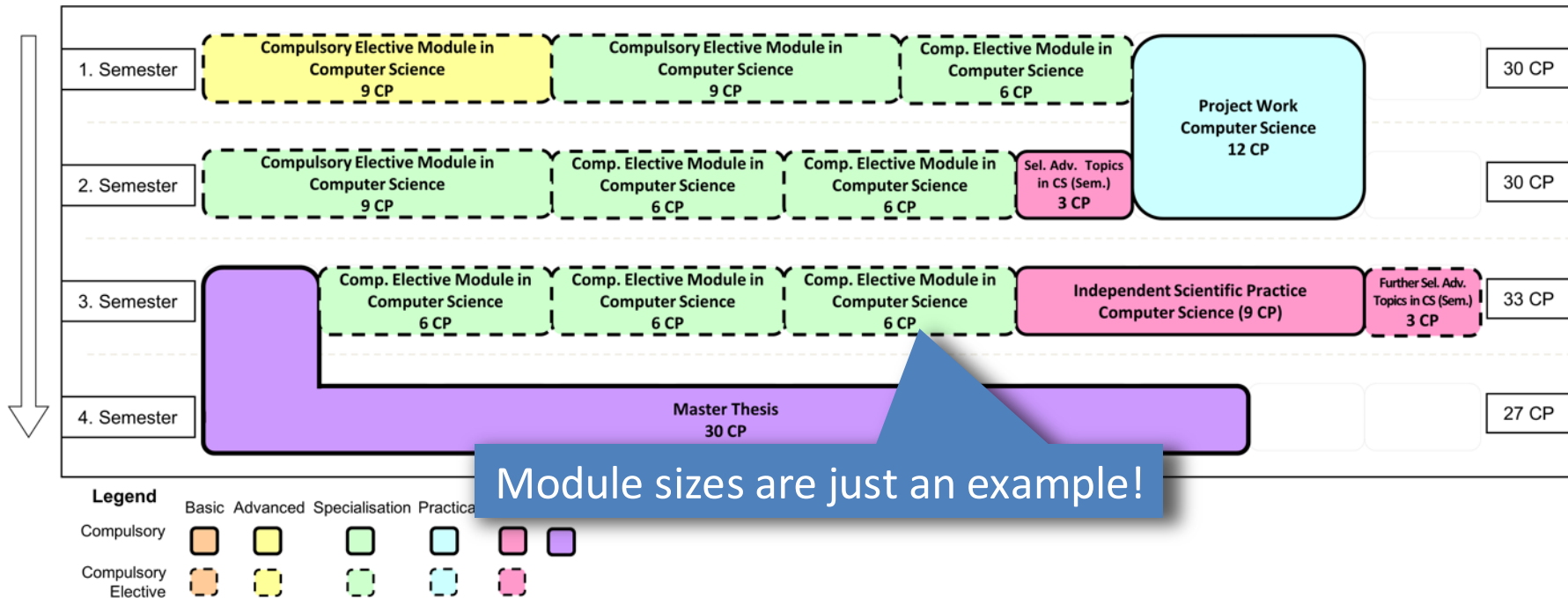
- Study Composition
 - Similar for other study programs; main differences:
 - One of the four Focus Areas (in BA or Economics) must be chosen
 - Industrial Internship is mandatory if not already done in Bachelor
 - Financial Mathematics I should be included if it has not been completed in the Bachelor
 - One to three seminars (not all combinations allowed)
 - May pick up to two computer science modules
 - One to three seminars (each must be from a different area)
 - Limits for modules with level “advanced” in different areas

(BM) 

Recommended Order of Studies

Computer Science (M.Sc.)

Start in a Wintersemester or Summersemester



Conditional Modules

- If your Bachelor was not fully equivalent with the Marburg Bachelor, you have received „conditional modules“ (see admission letter)
- Mandatory courses from Bachelor
- Must be completed in addition (may prolong your study by approx. one semester)
- Must be completed within four semesters
 - Start early, so you can re-take the course if you fail
 - Courses given once a year
- Bachelor courses in German → you get English material and exam

Web Portals and Services

- Course Catalog (MARVIN)
 - <https://marvin.uni-marburg.de/>
- E-Learning environment (ILIAS)
 - <https://ilias.uni-marburg.de/>
- Module Handbook
 - https://www.mathematik.uni-marburg.de/modulhandbuch/index_en.html
- Course Preview
 - <https://www.mathematik.uni-marburg.de/studium/preview/index.html?lang=en>
- Infos for Master students
 - <https://www.uni-marburg.de/en/fb12/research-groups/psw/teaching/information-for-master-students>

Online Modul Handbook

- Here, you find all modules that **may** be offered
 - Information on level, attributes, credits
 - Not all modules are offered each semester/year
 - Courses with different title might be offered for a module (see assigned modules in MARVIN)



Profile Area

- Possible areas see here:
 - Computer Science:
<https://www.uni-marburg.de/en/fb12/studying/degree-programs/m-sc-computer-science/study-structure/profile-areas>
 - Mathematics:
<https://www.uni-marburg.de/en/fb12/studying/degree-programs/m-sc-mathematics/study-structure/profile-areas>
- Application areas in Data Science:
 - <https://www.uni-marburg.de/en/fb12/studying/degree-programs/m-sc-data-science/study-structure/application-area>
- For further information on choices in area follow link into module handbook
- Attention:
 - Courses typically come from Bachelor programs
 - → Profile areas may only be possible to study in German
 - Courses may have dependencies → plan ahead

Project Work

- Visit ILIAS course – will be **online from October 25th** on!
 - Log in
 - Repository > ILIAS: Kurse aller Semester > Fb. 12: Mathematik und Informatik > Informatik > CURRENT SEMESTER > Taentzer: SO Fortgeschrittenenpraktika und Projektarbeiten
 - Newly offered assignments
 - Presentation of completed assignments
- Group work (teams of at least three)
- 12 credits, typically over two semesters
- New topics each semester
 - Can also start in later semester, but each semester new topics
 - → It is recommended to check now if there is an interesting topic and then to decide to already follow project work or not

Seminar („Selected Advanced Topics of ...“ or variants thereof)

- Also offered each semester
 - Can already follow a seminar
 - Often seminar topics only offered once or irregularly
 - → It is recommended to already check available topics and decide whether to take a seminar or not
- Offered seminars
 - See MARVIN
 - But some are not shown properly in the course catalog, alternative: look seminars in ILIAS
 - There you also find the seminar's individual kick-off appointment
 - For mathematics seminars
 - The kick-off may already have happened, contact the supervisor for further information
 - Check for kick-off meetings for upcoming semesters at the end of the current semester

Independent Scientific Practice ... / Master's Thesis

- Only in Computer Science, Data Science, Business Informatics
- The module “Independent Scientific Practice ...” is usually a precursor to the Master's Thesis
 - Supervised individually
 - Topic and supervisor the same as Master's thesis
- Discuss exact goals with supervisor
- Look at research groups to find topics of interest for you and a supervisor

Registration

- You do not need to register for participating in a lecture of the department
 - That is typically different for courses of other departments (e.g. BA and Economics for BI and BM or profile area modules)
 - That will change for our modules in the future as well, but you will be informed about that
- Registration only needed for exams
- Further Information
<https://www.uni-marburg.de/de/fb12/fachbereich/dekanat/pruefungsbuero>

Exam Attempts / Switching a Module

- Attempts
 - For modules of our department:
 - Up to four attempts
 - That is typically different for courses of other departments (e.g. BA and Economics for BI and BM or profile area modules)
 - BA and Economics: only three attempts
- Compulsory Elective modules
 - Once you start a module (i.e., registered for the exam) you must complete it
 - Up to two compulsory elective modules can be failed permanently and you can choose a different module
 - If you permanently fail more than two compulsory electives (or one mandatory module) you permanently fail your whole study program
 - If you want to switch a module you already started, you can voluntarily permanently fail that module

Research Groups

- Department of Mathematics and Computer Science
<https://www.uni-marburg.de/en/fb12/research-groups>
- School of Business and Economics
<https://www.uni-marburg.de/en/fb02>