

Organization

Blockchain-Based Systems Engineering

Chair of Software Engineering for Business Information Systems (sebis)
Faculty of Informatics
Technische Universität München
www.matthes.in.tum.de

Lecturer:

Prof. Dr. Florian Matthes

Teaching Assistants / Organizers:

Mahdi Dhaini

Felix Hoops

Burak Öz

Weekly Schedule: Only one lecture per week!

- **Lecture:** Tuesday, 12:15 – 13:45
- **Central Exercise:** Wednesday, 16:15 – 17:45 (starts on week 19 - 11.05)
- Exercise sheets will be published on Moodle after every lecture. The solutions will be discussed in the following week's central exercise session.
- The guest lecture (Parithosh Jayanthi – Ethereum Foundation) will take place on week 27 – 05.07.
- This year, we introduce **micro-lectures** where each micro lecture covers a hot topic from the blockchain ecosystem. There will be two micro-lecture sessions (week 29 & 30) and in each session, two different topics will be presented. Topics of the micro-lectures are *SSI*, *DAOs*, *MEV*, and *Applied Web3*.
- Due to the current situation, the lecture, and the central exercise sessions take place in [zoom](#). The link and password are available in Moodle.
- Lecture slides, exercise sheets, and exercise solutions will be published on Moodle every week.
- One can also find lecture, exercise, and exam material of previous years' on our [GitHub](#) page.

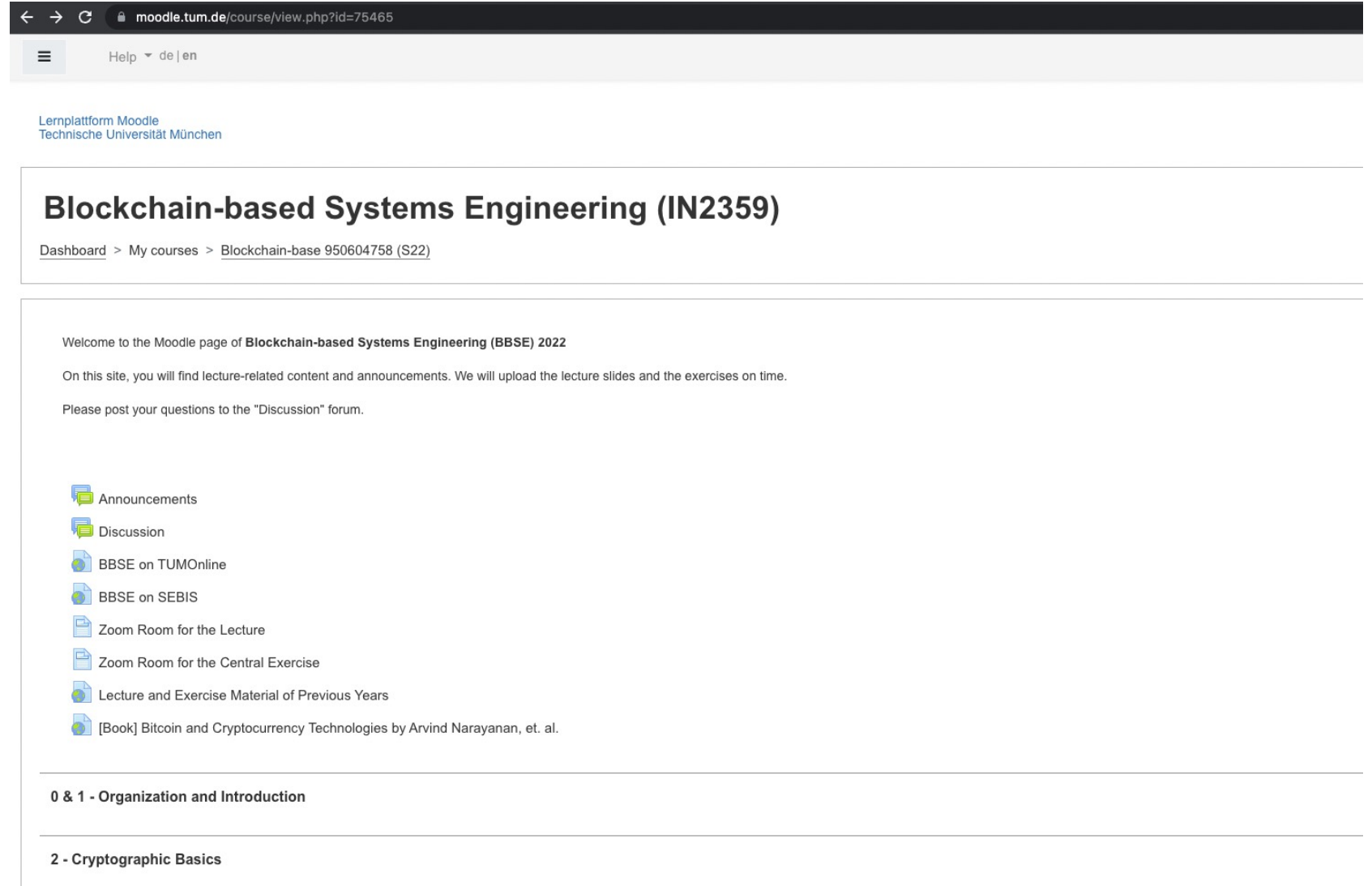
Lecture slides and further documents...

... can be found on Moodle.

Also:

If you have questions,
please post them on Moodle!

Can you access Moodle?



The screenshot shows a web browser window with the URL `moodle.tum.de/course/view.php?id=75465`. The page header includes a menu icon, the text "Help de | en", and the Moodle logo with "Lernplattform Moodle Technische Universität München". The main heading is "Blockchain-based Systems Engineering (IN2359)". Below it is a breadcrumb trail: "Dashboard > My courses > Blockchain-base 950604758 (S22)". The welcome message reads: "Welcome to the Moodle page of **Blockchain-based Systems Engineering (BBSE) 2022**. On this site, you will find lecture-related content and announcements. We will upload the lecture slides and the exercises on time. Please post your questions to the 'Discussion' forum." A list of links with icons follows: "Announcements", "Discussion", "BBSE on TUMOnline", "BBSE on SEBIS", "Zoom Room for the Lecture", "Zoom Room for the Central Exercise", "Lecture and Exercise Material of Previous Years", and "[Book] Bitcoin and Cryptocurrency Technologies by Arvind Narayanan, et. al.". At the bottom, two course sections are listed: "0 & 1 - Organization and Introduction" and "2 - Cryptographic Basics".

Credits:

- Formally: Lecture + Exercise (2+2 hours/week), 5 ECTS

Exam:

- 90 minutes
- Written
- No additional aids / material
- We have no information about when and how → We will inform you!

Exercises:

- Every week, relevant sheets will be published on Moodle.
- We are not able to individually correct exercises.

Material:

- Slides, exercises, solutions, etc. are available via Moodle.

Exercises and grading scheme

Exercise:

- No grading / correction
- Therefore: **No bonus**
- But: exercises help you to understand the contents of the lecture → **better grade** in exam

Exam:

- 90 minutes
- Questions related to the lectures, guest lectures, and exercises / tutorials

Date:

- No date until now.
- **NO retake exam! (Next exam end of Summer term 2023)**

BBSE Online Lecture and Central Exercise Sessions

Week	Date	Live session topic		Week	Date	Live session topic
17	Tue 26.04	Organization and introduction		24	Tue 14.06	Ethereum Smart Contracts
17	Wed 27.04	<i>No exercise session</i>		24	Wed 15.06	Ethereum – Exercise II
18	Tue 03.05	Cryptographic basics		25	Tue 21.06	Ethereum Design Patterns
18	Wed 04.05	<i>No exercise session</i>		25	Wed 22.06	Ethereum – Exercise III
19	Tue 10.05	Bitcoin basics		26	Tue 28.06	Tezos Basics
19	Wed 11.05	Cryptographic basics - Exercise		26	Wed 29.06	Ethereum – Exercise IV
20	Tue 17.05	Consensus in Bitcoin		27	Tue 05.07	Guest Lecture
20	Wed 18.05	Bitcoin script - Exercise		27	Wed 06.07	Ethereum – Exercise V
21	Tue 24.05	Bitcoin Evolution and Challenges		28	Tue 12.07	Hyperledger
21	Wed 25.05	Consensus in Bitcoin - Exercise		28	Wed 13.07	<i>No exercise session</i>
22	Tue 31.05	Ethereum Basics		29	Tue 19.07	Micro-lectures I
22	Wed 01.06	Bitcoin Evolution and Challenges - Exercise		29	Wed 20.07	<i>No exercise session</i>
23	Tue 07.06	<i>No lecture session</i>		30	Tue 26.07	Micro-lectures II
23	Wed 08.06	Ethereum – Exercise I		30	Wed 27.07	Exam Preparation

Available for:

- Computer Science Master
- Information Systems Master
- Master in Management & Technology with Major Computer Science / Informatics
- Other study programs: Check your module catalogue!

Official prerequisites:

- IN0002: Fundamentals of Programming
- IN0006: Introduction to Software Engineering
- IN0009: Basic Principles: Operating Systems and System Software

Be careful!

Blockchain / Cryptocurrency investments

- We cover **certain cryptocurrencies** in this lecture.
- We do **NOT recommend** to buy any of currencies, **no investment advise, use at your own risk!**
- Most networks have a **test network**, please favor these!
- Please **be aware** of **scams**, Ponzi schemes, mining investments, etc.!

This is a **lecture** about a **new topic**

- Not everything is perfect, errors can happen.
- If you spot errors, we are more than happy to know!
- If you know something better, please let us also know!
- The information can be **very short-lived**. Covered technologies could be outdated at any time.
- Research about Blockchain is only in its beginnings. Information can be **wrong / inaccurate**.

➔ Let's start!