| | |
|---|---|
| **Course:** Blockchain | |
| **Course instructors:** Miodrag Mihaljević | |
| **Course type:** elective | |
| **Credit points ECTS:** 12 | |
| **Prerequisites:** | |

**Course objectives:**
Education on blockchain technology and its applications.

**Learning outcomes:**
Background on main methods, techniques, and applications of blockchain technology relevant for research activities.

**Course description (outline):**
*Theoretical classes*:
Introduction and Blockchain Paradigms, Technical Basics for Understanding of Blockchain
Technology, Overview of Blockchain Technology Concepts, Main Components of a Blockchain System, Architectures of Blockchain Systems, Blockchain Consensus Protocols, Security and Privacy Issues of Blockchain Technologies, Scalability in Blockchain: Challenges and Solutions, Applications of Blockchain Technology, Cryptocurrency Mechanisms for Blockchains: Models, Characteristics, Challenges, and Applications, Blockchain and Internet of Things: An Overview, Cloud-Based Blockchaining for Enhanced Security, Blockchain-Based Security and Privacy for Smart Contracts, Blockchain-Powered Smart Healthcare System, Using Blockchain for Digital Copyrights Management

*Practice classes*
Experimental exercises over selected blockchain platforms

**References:**
Tatiana Gayvoronskaya, Christoph Meinel: ***Blockchain - Hype or Innovation***, Springer, 2021, ISBN 978-3-030-61558-1 ISBN 978-3-030-61559-8 (eBook), https://doi.org/10.1007/978-3-030-61559-8
***Handbook of Research on Blockchain Technology***, Edited book, Elsevier, 2020, ISBN: 9780128198162, eBook ISBN: 9780128204153
***Blockchain for Information Security and Privacy***, Edited book, Taylor & Francis eBooks, 2021, ISBN 9780367654481

| Active teaching hours: 5 | Theoretical classes: | Practice classes: |
|---|---|---|

**Methods of teaching:**
Consulting, Project Works, Lectures

**Grading structure (100 points)**
Pre-Examination activities:
•	activity during lectures or consulting: 10 points,
•	project work: 30 points,
Oral Examination: 60 points