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| Study programmes: PhD studies - Informatics | | | | |
| Course name: R459 - Topics in Theoretical Computer Science | | | | |
| Lecturers: Predrag Janičić and other lecturers of the Department for Computer Science | | | | |
| Status: Optional | | | | |
| ECTS: 9 | | | | |
| Attendance prerequisites: No prerequisite | | | | |
| Course aims: Acquiring knowledge about actual topics, methods and results of theoretical computer science | | | | |
| Course outcome: After the course, the student is familiar with the chosen topics and is able to do research in these areas. | | | | |
| Course content: Within the course, actual topics in computer science are covered, from areas such as: <ul style="list-style-type: none"> - Languages and automata - Algorithms in number theory - Cryptography - Models of computations - Coding theory - Information theory - Computation complexity - Rewrite systems - Logical programming - Functional programming - Type theory - Temporal and modal logics - Program semantics and verification - Theoretical aspects of databases - Automated and interactive theorem proving - Machine learning | | | | |
| Literature: <ol style="list-style-type: none"> 1. Jan van Leeuwen (Ed.): Handbook of Theoretical Computer Science, Volume A: Algorithms and Complexity. Elsevier and MIT Press 1990 ISBN 0-444-88071-2 2. Jan van Leeuwen (Ed.): Handbook of Theoretical Computer Science, Volume B: Formal Models and Semantics. Elsevier and MIT Press 1990 ISBN 0-444-88074-7 3. Selected articles form research journals (the lecturer can choose another appropriate literature) | | | | |
| Number of hours: 10 | Lectures: 4 | Tutorials: - | Laboratory: - | Research: 6 |
| Teaching and learning methods: Frontal/Lectures/Exercises | | | | |
| Assessment (maximal 100 points) | | | | |
| Course assignments | points | Final exam | points | |
| Lectures | 25 | Written exam | - | |
| Exercises / Tutorials | 25 | Oral exam | - | |
| Colloquia | - | Written-oral exam | 50 | |
| Essay / Project | - | | | |