Algorithmic Research in Teams

Module title:	Credits:	Responsible person:
Algorithmic Research in Teams	9	Niedermeier, Rolf
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Learning Outcomes

On successful completion, students will be able to:
- approach concrete problems in algorithmic research
- present in written and oral form their research findings in a concise and understandable manner
- judge and classify current research results as well as their own findings

Content

The research project addresses recent selected research publications. Typically, the research topics will feature questions in algorithmic research, e.g., data clustering, computational social choice, data mining, graph algorithms with applications, social network analysis. The project will contain the following parts of algorithmic research:

- Reading and understanding of previous research contributions.
- Identification of open questions and potential improvements.
- Active participation in the research process together with other participants and the advisors.
- Development of technical writing skills in English.
- Submitting a small paper for publication to an international venue.

The participants will work in groups of size two or three in close cooperation with the advisors.

Module Components

Course Name	Type	Number	Cycle	SWS
Algorithmic Research in Teams	PJ	0434 L 234	k.A.	6

Workload and Credit Points

Algorithmic Research in Teams (Projekt)	Multiplier	Hours	Total
Independent reading & research, drafting of manuscripts	15.0	12.0h	180.0h
Presence	15.0	6.0h	90.0h
			270.0h

The Workload of the module sums up to 270.0 Hours. Therefore the module contains 9 Credits.

Description of Teaching and Learning Methods

The algorithmic research project will feature
- joint informal research discussions,
- presentations of research results by the participants, and
- drafting of an English manuscript with the help of the advisors.

Requirements for participation and examination

Desirable prerequisites for participation in the courses:

Basic knowledge of algorithms.
Having successfully passed one or more of the following courses is strongly advised: Advanced Algorithmics, Parameterized Algorithmics, Randomized Algorithms, Economics and Computation, Computational Complexity, or Approximationsalgorithmen (ADM III) .

Mandatory requirements for the module test application:

1.) Module *Randomized Algorithms (#40667)* registered **or** Module *Economics and Computation (#40911)* registered **or** Module *Advanced Algorithmics (#40025)* registered **or** Module *Computational Complexity (#40379)* registered **or** Module *Approximationsalgorithmen (ADM III) (#20091)* registered **or** Module *Parameterized Algorithmics (#40627)* registered

Module completion

Grading:	Type of exam:	Language:
graded	Portfolio examination 100 points in total	English

Grading scale:

This exam uses its own grading scale (see test description)..

Test description:

According to §47 (2) AllgStuPO the grade will be calculated applying grading key 1 of Fakultät IV, it may however be altered in favour of the students.

Test elements	Categorie	Points	Duration/Extent
(Deliverable assessment) manuscript	written	40	15 pp
(Learning process review) participation in group research discussions	flexible	20	*No information*
(Deliverable assessment) review of other manuscript	written	10	1 - 2 pp
(Deliverable assessment) oral presentation in the course	oral	30	60 min

Duration of the Module

This module can be completed in one semester.

Maximum Number of Participants

The maximum capacity of students is 9

Registration Procedures

http://www.akt.tu-berlin.de/menue/teaching/

Recommended reading, Lecture notes

Lecture notes:	Electronical lecture notes :
unavailable	available

Assigned Degree Programs

This moduleversion is used in the following modulelists:

- Computer Engineering (Master of Science)
  - StuPO 2015
    - Modullisten der Semester: SoSe 2021 WS 2021/22
- Computer Science (Informatik) (Master of Science)
  - StuPO 2015
    - Modullisten der Semester: SoSe 2021 WS 2021/22
- Elektrotechnik (Master of Science)
  - StuPO 2015
    - Modullisten der Semester: SoSe 2021 WS 2021/22
- Informatik (Master of Science)
  - MSc Informatik PO 2013
    - Modullisten der Semester: SoSe 2021
- Information Systems Management (Wirtschaftsinformatik) (Master of Science)
  - StuPO 2013
    - Modullisten der Semester: SoSe 2021
- Information Systems Management (Wirtschaftsinformatik) (Master of Science)
  - StuPO 2017
    - Modullisten der Semester: SoSe 2021 WS 2021/22

Miscellaneous

This course is not offered regularly, you will find detailed information on our website: http://www.akt.tu-berlin.de/menue/teaching/