

Part I

Organizational Matters

Part I

Organizational Matters

- ▶ Modul: IN2004
- ▶ Name: “Efficient Algorithms and Data Structures II”
“Effiziente Algorithmen und Datenstrukturen II”
- ▶ ECTS: 8 Credit points
- ▶ Lectures:
 - ▶ 4 SWS
 - Wed 12:15–13:45 (Room 00.13.009A)
 - Fri 10:15–11:45 (MS HS3)
- ▶ Webpage: <http://www14.in.tum.de/lehre/2017SS/ea/>

Part I

Organizational Matters

- ▶ Modul: IN2004
- ▶ Name: “Efficient Algorithms and Data Structures II”
“Effiziente Algorithmen und Datenstrukturen II”
- ▶ ECTS: 8 Credit points
- ▶ Lectures:
 - ▶ 4 SWS
 - Wed 12:15–13:45 (Room 00.13.009A)
 - Fri 10:15–11:45 (MS HS3)
- ▶ Webpage: <http://www14.in.tum.de/lehre/2017SS/ea/>

Part I

Organizational Matters

- ▶ Modul: IN2004
- ▶ Name: “Efficient Algorithms and Data Structures II”
“Effiziente Algorithmen und Datenstrukturen II”
- ▶ ECTS: 8 Credit points
- ▶ Lectures:
 - ▶ 4 SWS
 - Wed 12:15–13:45 (Room 00.13.009A)
 - Fri 10:15–11:45 (MS HS3)
- ▶ Webpage: <http://www14.in.tum.de/lehre/2017SS/ea/>

Part I

Organizational Matters

- ▶ Modul: IN2004
- ▶ Name: “Efficient Algorithms and Data Structures II”
“Effiziente Algorithmen und Datenstrukturen II”
- ▶ ECTS: 8 Credit points
- ▶ Lectures:
 - ▶ 4 SWS
Wed 12:15–13:45 (Room 00.13.009A)
Fri 10:15–11:45 (MS HS3)
- ▶ Webpage: <http://www14.in.tum.de/lehre/2017SS/ea/>

Part I

Organizational Matters

- ▶ Modul: IN2004
- ▶ Name: “Efficient Algorithms and Data Structures II”
“Effiziente Algorithmen und Datenstrukturen II”
- ▶ ECTS: 8 Credit points
- ▶ Lectures:
 - ▶ 4 SWS
Wed 12:15–13:45 (Room 00.13.009A)
Fri 10:15–11:45 (MS HS3)
- ▶ Webpage: <http://www14.in.tum.de/lehre/2017SS/ea/>

The Lecturer

- ▶ Harald Räche
- ▶ Email: raecke@in.tum.de
- ▶ Room: 03.09.044
- ▶ Office hours: (per appointment)

- ▶ Tutor:
 - ▶ Richard Stotz
 - ▶ stotz@tum.de
 - ▶ Room: 03.09.057
 - ▶ per appointment
- ▶ Room: 03.11.018
- ▶ Time: Wed 16:00–17:30

Assessment

- ▶ In order to pass the module you need to pass an exam.

- ▶ Exam:

- ▶ 2h

- ▶ Take will be announced shortly

- ▶ There are no resources allowed, apart from a calculator
with memory (if)

- ▶ Answers should be given in English, but German is also
allowed

Assessment

- ▶ In order to pass the module you need to pass an exam.
- ▶ Exam:
 - ▶ 2.5 hours
 - ▶ Date will be announced shortly.
 - ▶ There are no resources allowed, apart from a hand-written piece of paper (A4).
 - ▶ Answers should be given in English, but German is also accepted.

Assessment

- ▶ In order to pass the module you need to pass an exam.
- ▶ Exam:
 - ▶ 2.5 hours
 - ▶ Date will be announced shortly.
 - ▶ There are no resources allowed, apart from a hand-written piece of paper (A4).
 - ▶ Answers should be given in English, but German is also accepted.

Assessment

- ▶ In order to pass the module you need to pass an exam.
- ▶ Exam:
 - ▶ 2.5 hours
 - ▶ Date will be announced shortly.
 - ▶ There are no resources allowed, apart from a hand-written piece of paper (A4).
 - ▶ Answers should be given in English, but German is also accepted.

Assessment

- ▶ In order to pass the module you need to pass an exam.
- ▶ Exam:
 - ▶ 2.5 hours
 - ▶ Date will be announced shortly.
 - ▶ There are no resources allowed, apart from a hand-written piece of paper (A4).
 - ▶ Answers should be given in English, but German is also accepted.

Assessment

- ▶ In order to pass the module you need to pass an exam.
- ▶ Exam:
 - ▶ 2.5 hours
 - ▶ Date will be announced shortly.
 - ▶ There are no resources allowed, apart from a hand-written piece of paper (A4).
 - ▶ Answers should be given in English, but German is also accepted.

► Assignment Sheets:

- An assignment sheet is usually made available on Wednesday on the module webpage.
- Solutions have to be handed in in the following week before the lecture on Wednesday.
- You can hand in your solutions by putting them in the right folder in front of room 03.09.020.
- Solutions have to be given in English.
- Solutions will be discussed in the subsequent tutorial.
- The first one will be out on Wednesday, 3 May.

- ▶ **Assignment Sheets:**
 - ▶ **An assignment sheet is usually made available on Wednesday on the module webpage.**
 - ▶ Solutions have to be handed in in the following week before the lecture on Wednesday.
 - ▶ You can hand in your solutions by putting them in the right folder in front of room 03.09.020.
 - ▶ Solutions have to be given in English.
 - ▶ Solutions will be discussed in the subsequent tutorial.
 - ▶ The first one will be out on Wednesday, 3 May.

- ▶ Assignment Sheets:
 - ▶ An assignment sheet is usually made available on Wednesday on the module webpage.
 - ▶ Solutions have to be handed in in the following week before the lecture on Wednesday.
 - ▶ You can hand in your solutions by putting them in the right folder in front of room 03.09.020.
 - ▶ Solutions have to be given in English.
 - ▶ Solutions will be discussed in the subsequent tutorial.
 - ▶ The first one will be out on Wednesday, 3 May.

- ▶ Assignment Sheets:
 - ▶ An assignment sheet is usually made available on Wednesday on the module webpage.
 - ▶ Solutions have to be handed in in the following week before the lecture on Wednesday.
 - ▶ You can hand in your solutions by putting them in the right folder in front of room 03.09.020.
 - ▶ Solutions have to be given in English.
 - ▶ Solutions will be discussed in the subsequent tutorial.
 - ▶ The first one will be out on Wednesday, 3 May.

- ▶ Assignment Sheets:
 - ▶ An assignment sheet is usually made available on Wednesday on the module webpage.
 - ▶ Solutions have to be handed in in the following week before the lecture on Wednesday.
 - ▶ You can hand in your solutions by putting them in the right folder in front of room 03.09.020.
 - ▶ Solutions have to be given in English.
 - ▶ Solutions will be discussed in the subsequent tutorial.
 - ▶ The first one will be out on Wednesday, 3 May.

- ▶ Assignment Sheets:
 - ▶ An assignment sheet is usually made available on Wednesday on the module webpage.
 - ▶ Solutions have to be handed in in the following week before the lecture on Wednesday.
 - ▶ You can hand in your solutions by putting them in the right folder in front of room 03.09.020.
 - ▶ Solutions have to be given in English.
 - ▶ Solutions will be discussed in the subsequent tutorial.
 - ▶ The first one will be out on Wednesday, 3 May.

- ▶ Assignment Sheets:
 - ▶ An assignment sheet is usually made available on Wednesday on the module webpage.
 - ▶ Solutions have to be handed in in the following week before the lecture on Wednesday.
 - ▶ You can hand in your solutions by putting them in the right folder in front of room 03.09.020.
 - ▶ Solutions have to be given in English.
 - ▶ Solutions will be discussed in the subsequent tutorial.
 - ▶ The first one will be out on Wednesday, 3 May.

1 Contents

Part 1: Linear Programming

Part 2: Approximation Algorithms

2 Literatur



V. Chvatal:

Linear Programming,

Freeman, 1983



R. Seidel:

Skript Optimierung, 1996



D. Bertsimas and J.N. Tsitsiklis:

Introduction to Linear Optimization,

Athena Scientific, 1997



Vijay V. Vazirani:

Approximation Algorithms,

Springer 2001



David P. Williamson and David B. Shmoys:
The Design of Approximation Algorithms,
Cambridge University Press 2011



G. Ausiello, P. Crescenzi, G. Gambosi, V. Kann, A.
Marchetti-Spaccamela, and M. Protasi:
Complexity and Approximation,
Springer, 1999