# **Organizational Matters**



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#### Modul: IN2003

- Name: "Efficient Algorithms and Data Structures" "Effiziente Algorithmen und Datenstrukturen"
- ECTS: 8 Credit points
- Lectures:
  - ► 4 SWS

Mon 10:15–11:45 (Room Interim2) Fri 10:15–11:45 (Room Interim2)

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- Webpage: http://www14.in.tum.de/lehre/2013WS/ea/

#### Required knowledge:

- IN0001, IN0003
  "Introduction to Informatics 1/2"
  "Einführung in die Informatik 1/2"
- IN0007

**"Fundamentals of Algorithms and Data Structures"** "Grundlagen: Algorithmen und Datenstrukturen" (GAD)

▶ IN0011

"Basic Theoretic Informatics"

"Einführung in die Theoretische Informatik" (THEO)

- ▶ IN0015
  - "Discrete Structures"

"Diskrete Strukturen" (DS)

IN0018

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## **The Lecturer**

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



## **Tutorials**

Tutors:

- Chintan Shah
- chintan.shah@tum.de
- Room: 03.09.059
- Office hours: Wed 11:30–12:30
- Richard Stotz
- richardstotz@gmail.com
- Room: —
- Office hours: —



## **Tutorials**

- Monday 16-18 (MI 00.08.038)
  Chintan
- Tuesday 14-16 (MI 00.08.038) Richard
- Thursday 10-12 (MI 00.08.038) Richard
- Friday 12-14 (MI 00.13.009A) Chintan



## **Assignment sheets**

#### In order to pass the module you need to pass a 3 hour exam.



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- An assignment sheet is usually made available on Monday on the module webpage.
- Solutions have to be handed in in the following week before the lecture on Monday.
- You can hand in your solutions by putting them in the right folder in front of room 03.09.052.
- Solutions have to be given in English.
- Solutions will be discussed in the tutorial of the week when the sheet has been handed in, i.e., sheet may not be corrected by this time.
- You can submit solutions in groups of up to **3** people.



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#### Assignment can be used to improve you grade

- the second half of assignments your grade will improve according to the following function
  - $f(\mathbf{x}) = \left\{ \begin{array}{l} \frac{1}{10} \operatorname{round}\left(10\left(\frac{\operatorname{round}(2\mathbf{x})-1}{3}\right)\right) = 1 < \mathbf{x} < 4 \\ \mathbf{x} \end{array} \right.$
- It will improve by 0.3 or 0.4, respectively. Examples:



Assignment can be used to improve you grade

If you obtain 50% of the points on the first half and 50% on the second half of assignments your grade will improve according to the following function

$$f(x) = \begin{cases} \frac{1}{10} \operatorname{round}\left(10\left(\frac{\operatorname{round}(3x)-1}{3}\right)\right) & 1 < x < 4\\ x & \text{otw.} \end{cases}$$

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  - 3.3 -- 3.0
    2.0 -- 1.7
    3.7 -- 3.3
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- Efficiency measures
- Asymptotic notation
- Recursion
- Higher Data Structures
  - Search trees
  - Hashing
  - Priority queues
  - Union/Find data structures
- Cuts/Flows
- Matchings



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## 2 Literatur

- Alfred V. Aho, John E. Hopcroft, Jeffrey D. Ullman: *The design and analysis of computer algorithms*, Addison-Wesley Publishing Company: Reading (MA), 1974
- Thomas H. Cormen, Charles E. Leiserson, Ron L. Rivest, Clifford Stein:

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2 Literatur

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