# Safety and Reliability of Embedded Systems

## (Sicherheit und Zuverlässigkeit eingebetteter Systeme)

## Welcome!



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# Administrative Issues

- Lecture held by AG Software Engineering: Dependability
  - http://agde.informatik.uni-kl.de/teaching/suze/ws2008
- Lecturer
  - Prof. Dr. Peter Liggesmeyer
    - Email: liggesmeyer@informatik.uni-kl.de
    - Office hours on appointment
    - Room: 32-425
- Tutor
  - Dipl.-Inf. Gerrit Hanselmann
    - Email: hanselmann@informatik.uni-kl.de
    - Phone: (0631) 205-3449
    - Office hours on appointment
    - Room: 32-429



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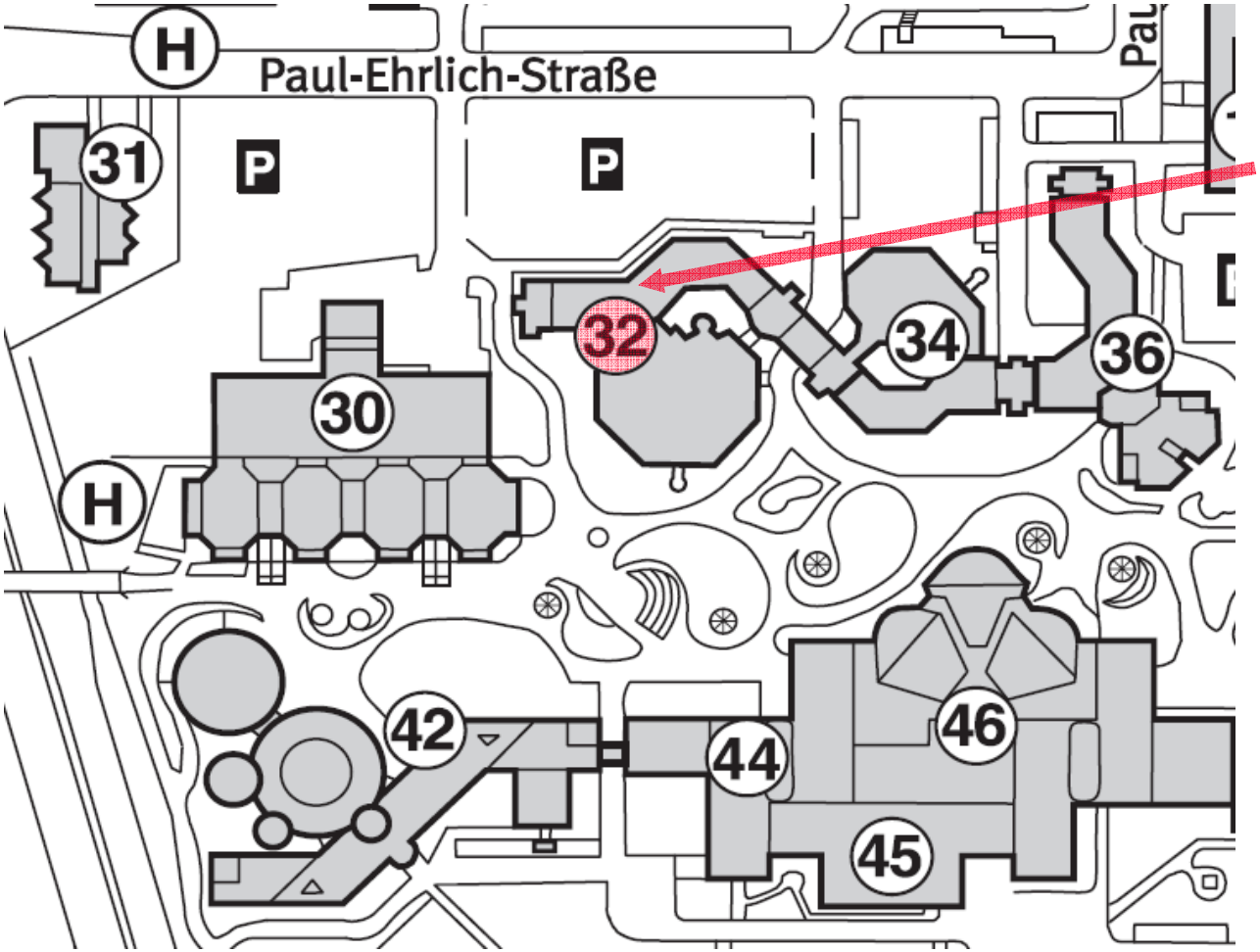
# Administrative Issues




AG Software Engineering: Dependability

Technical University of Kaiserslautern
Building 32, 4th Floor
P.O. Box 3049
67653 Kaiserslautern
Germany



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# Administrative Issues

- Schedule
  - Lecture (2 SWS)
    - Held weekly
    - Wednesday, 13:45 - 15:15, Room 42-110
  - Tutorial (1 SWS)
    - Held every two weeks (usually)
    - Thursday, 13:45 - 15:15, Room 13-305
    - Start of tutorials: Thursday, October 23 (only administrative topics)

- Grading by written or oral exam (mode and date will be announced within lecture and tutorial)



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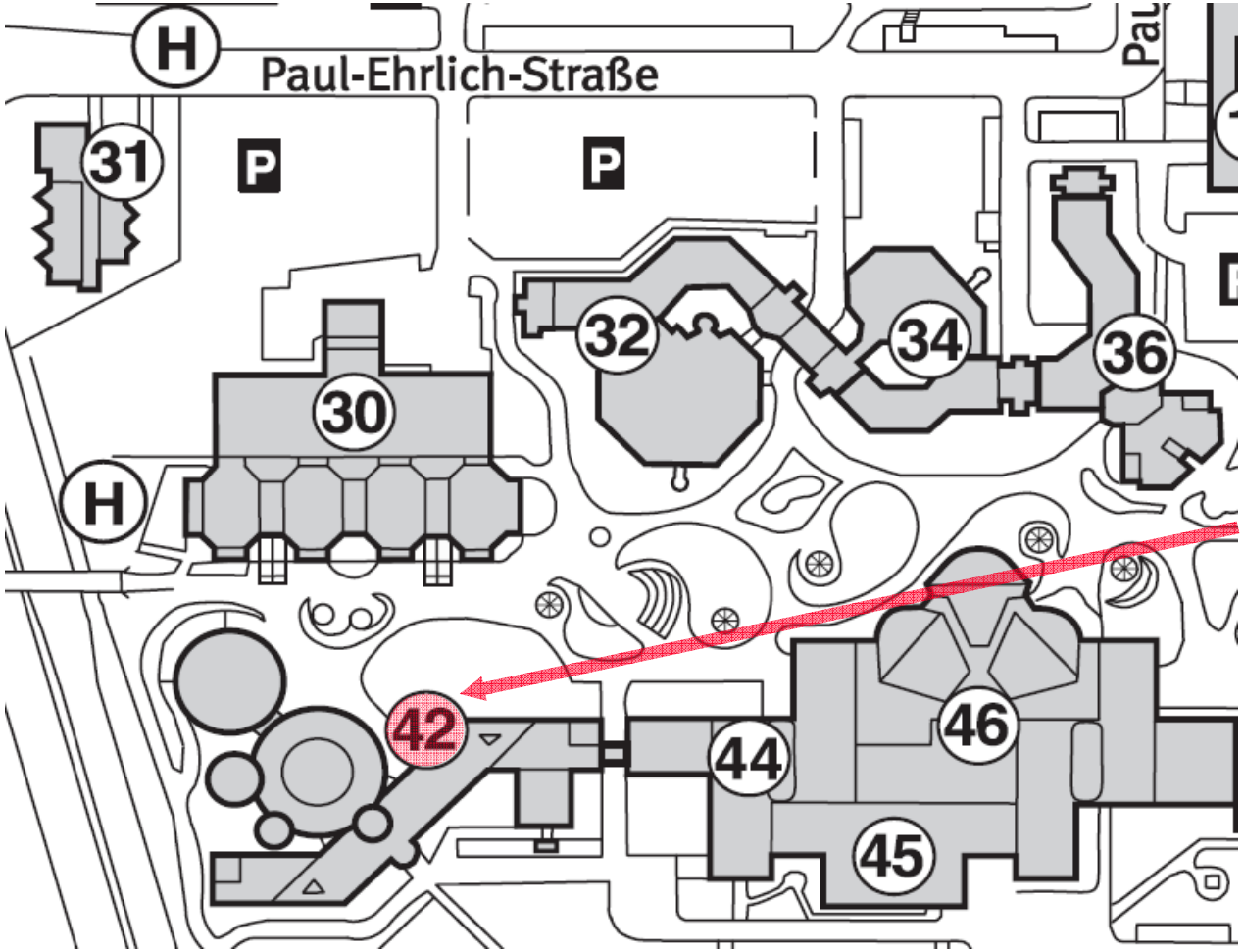
# Administrative Issues




Lecture:
Room 42-110



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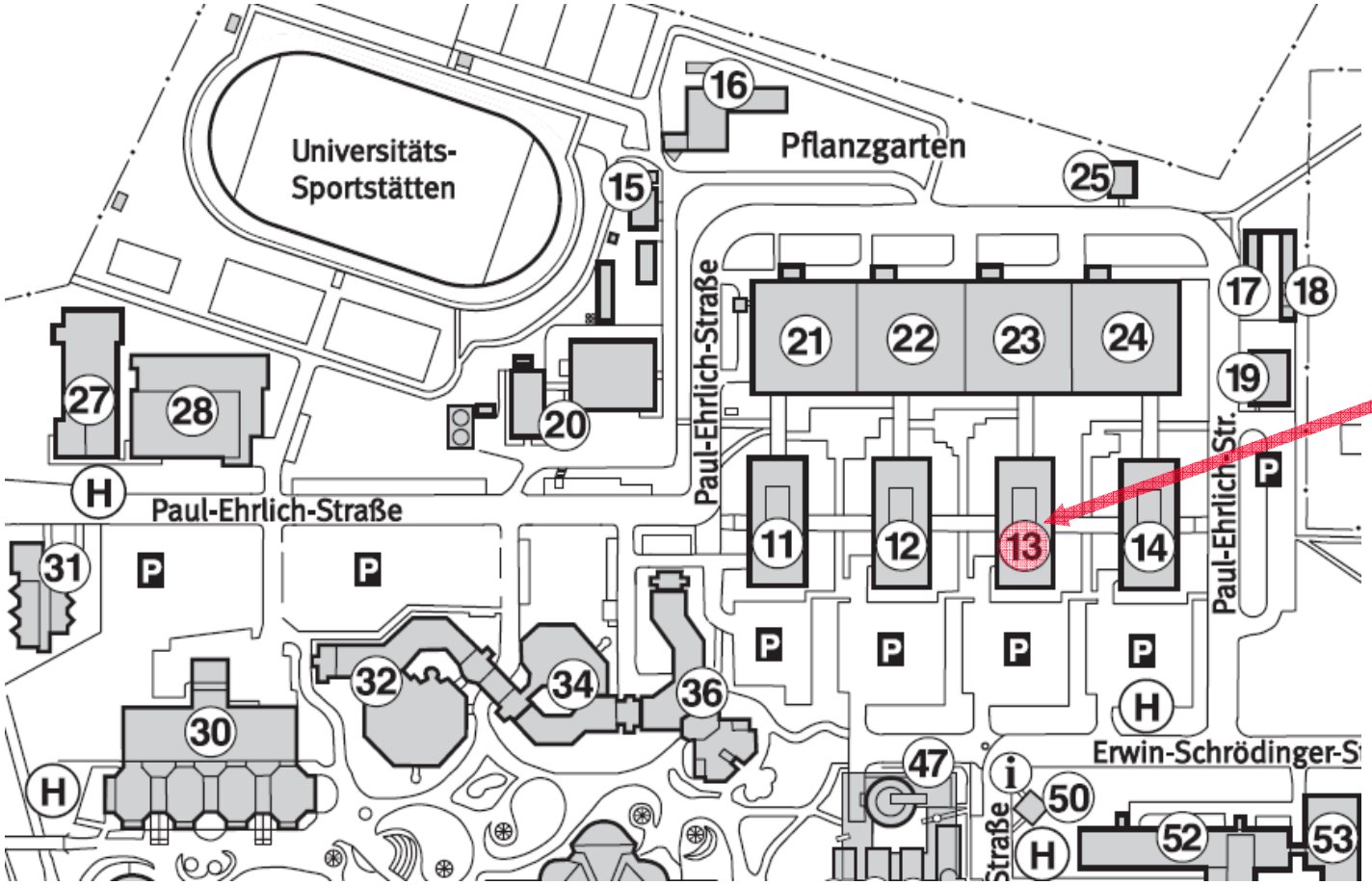
# Administrative Issues




Tutorial:
Room 13-305

# Administrative Issues

- Lecture notes
  - Available online at: http://agde.informatik.uni-kl.de/teaching/suze/ws2008/material/vorlesung/
  - Format: PDF or Postscript
- Problem sheets
  - Available online at: http://agde.informatik.uni-kl.de/teaching/suze/ws2008/material/uebung/
  - Format: PDF or Postscript
  - There will be no solutions published, so it is highly recommended to attend the tutorial sessions!
  - Please note that there is no handing-in and no marking of solved problem sheets



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# Administrative Issues

- Goals of lecture
  - Get to know selected formal and stochastic techniques for safety and reliability analysis of software and systems
  - Be able to use particular analysis methods in practice

# Administrative Issues

- Topics
  - Introduction
  - Terminology
  - Risk Acceptance Methods
  - Safety and Reliability Analysis Models
  - FMECA (Failure Modes, Effects and Criticality Analysis)
  - Fault Tree Analysis
  - Symbolic Model Checking
  - Stochastical Reliability Analysis
  - Quality Assurance and Quality Management



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# Administrative Issues

- Goals of tutorial
  - Work-out solutions to problem sets
  - Clarification of issues concerning the lecture
  - But: The intention is not to provide a substitute for the lecture!
- Topics
  - Same as lecture