Safety and Reliability of Embedded Systems

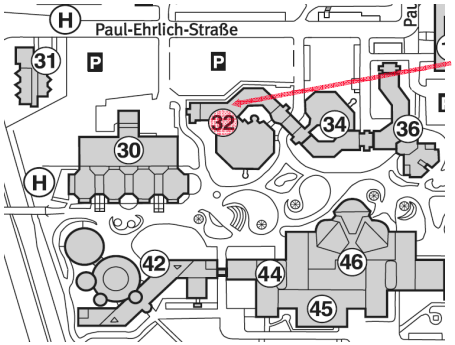
(Sicherheit und Zuverlässigkeit eingebetteter Systeme)

Welcome!

Administrative Issues

- Lecture held by AG Software Engineering: Dependability
  - http://agde.informatik.uni-kl.de/teaching/suze/ws2006
  - LV-Nr. 89-3331 / 89-3331U
- Lecturer
  - Prof. Dr. Peter Liggesmeyer
    - Email: liggesmeyer@informatik.uni-kl.de
    - Office hours on appointment
    - Room: 32-425
- Tutor
  - Dipl.-Ing. Nikolas Mayer
    - Email: mayern@informatik.uni-kl.de
    - Phone: (0631) 205-3957
    - Office hours: Monday, 10:00 - 11:30, or on appointment
    - Room: 32-427

Administrative Issues



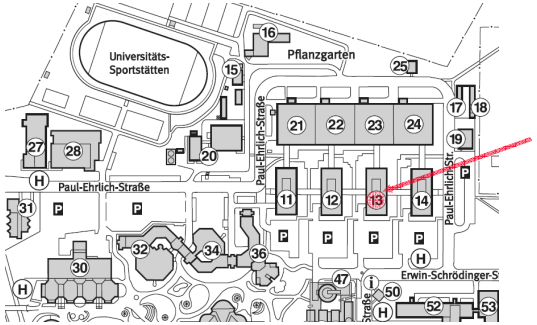
AG Software Engineering: Dependability

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

Administrative Issues

- Schedule
  - Lecture (2 SWS)
    - Held weekly
    - Monday, 13:45 - 15:15, Room 13-305
  - Tutorial (1 SWS)
    - Held every two weeks (usually)
    - Thursday, 13:45 - 15:15, Room 13-305
    - Start of tutorials: Thursday, November 2
- Grading by written or oral exam (mode and date will be announced within lecture and tutorial)

Administrative Issues



Administrative Issues

- Lecture notes
  - Available online at: http://agde.informatik.uni-kl.de/teaching/suze/ws2006/material/vorlesung/
  - Format: PDF or Postscript
- Problem sheets
  - Available online at: http://agde.informatik.uni-kl.de/teaching/suze/ws2006/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

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

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