



TECHNISCHE
UNIVERSITÄT
DRESDEN

Fakultät Informatik Institut für Systemarchitektur, Professur für Betriebssysteme

COMPLEX LAB SYSTEMS PROGRAMMING

Introduction

<https://tud.de/inf/os/studium/praktika-seminare/komplexpraktikum-systemnahe-programmierung>

HORST SCHIRMEIER

Overview

- Course Goals
- Organizational Stuff
 - Earning credits
 - Daily schedule, Communication, Feedback
- Topics

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- **Course Goals**
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Course Goals

- Low-level systems programming
- Advanced C++ skills
- Basic multi-threaded programming
- Intimate tools knowledge
- Hands-on experience
- Good preparation for practical courses

Good foundation for practical courses at the SyA institute in general and the OS group in particular

Earning Credits

- 4 SWS (week-hour) complex lab
- Solve practical assignments **after** the workshop
 - Submission until 2026-03-31 (or with enough delay before your oral exam, see below)
 - Grading: Assignment requirements met? #Iterations? Code quality?
- You can get credits within these modules:
 - INF-04-KP*, INF-MA-PR*
 - INF-DSE-20-E-ADSE, INF-DSE-20-M-INT
 - INF-BAS4** ***, INF-VERT4**
 - INF-E-4, MINF-04-KP-FG2, IST-05-FG-AVS
 - INF-B-510, -520, -530, -540

* ... plus 15-minute colloquium
(grading assignments:colloquium 3:1)

** regular oral exam
(very good assignments → bonus +0.3 possible)

*** INF-BAS4: max. 4 SWS from complex labs

Exam Appointments / Grading Requests

- Don't miss exam registration deadlines!
- Contact os@mailbox.tu-dresden.de for an exam appointment (modules *with* * or **); include:
 - Matriculation number
 - Degree program (Bachelor/Master Informatik or CS, DSE, IST, ...)
 - Module name (e.g., INF-BAS4)
 - "Systems Programming w/ Prof. Schirmeier"
 - Date wishes + constraints (e.g., "between X and Y"), don't be too restrictive (for INF-BAS4 / INF-VERT4: list other lectures + examiners)
- Contact michael.roitzsch@tu-dresden.de for triggering the final grading (modules *without* * or **) once you've submitted all assignments.

Daily Schedule, Communication

- **Start:** 09:30
- Lunch break: around 12:30
- Additional breaks on demand
- **End:** usually 16:00–16:30
- Communication via mailing list sysprog2025@os.inf.tu-dresden.de (sign up on the website!)
- **Feedback welcome:** in person, via email, or via our Anonymous Mailbox

Mailing List

➡ Please subscribe using a TU Dresden address

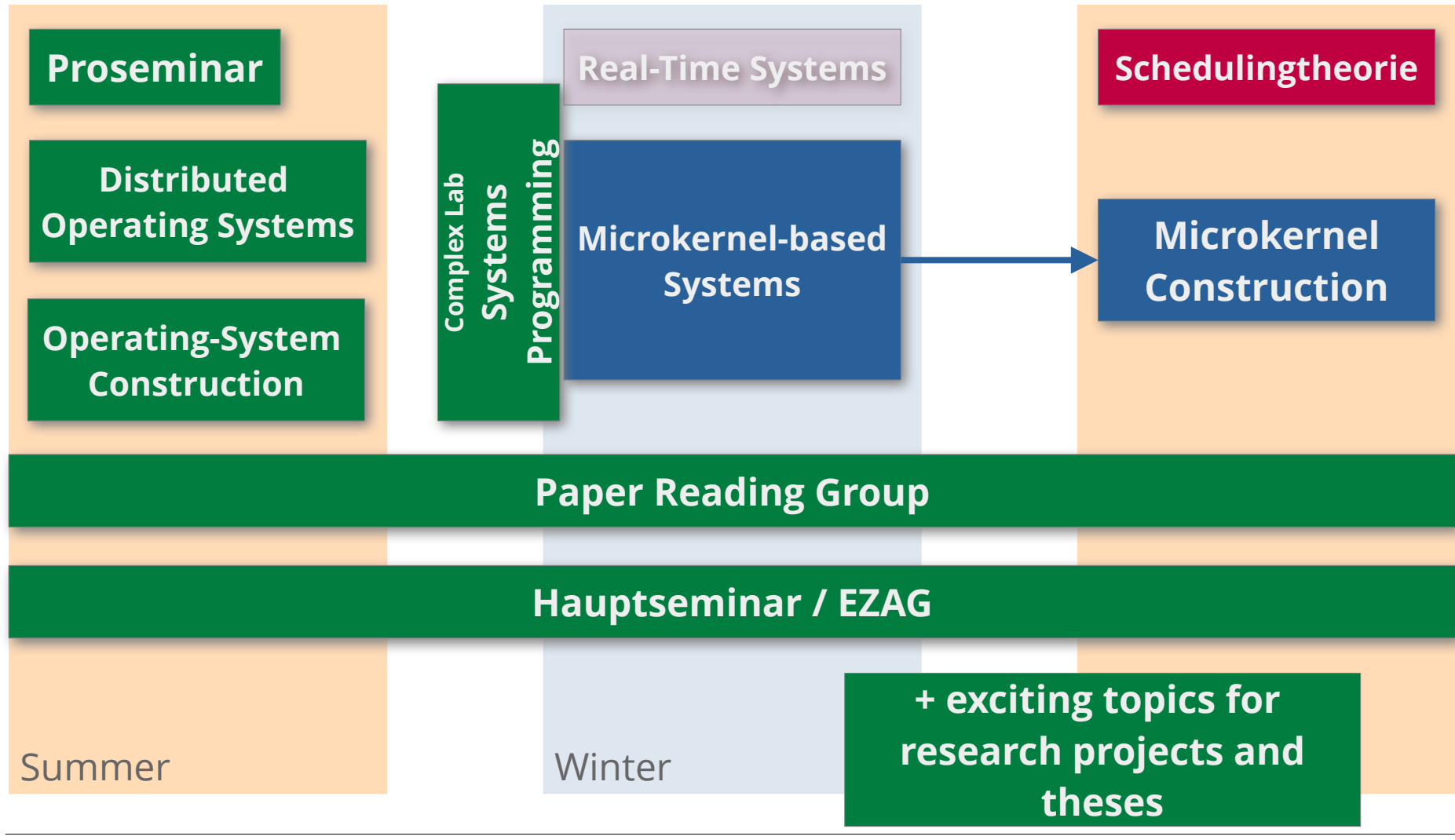
Feedback

via email or our ➡ anonymous mailbox

Topics

- Day 1 – Tools and Build System
- Day 2 – Rust for Systems
- Day 3 – Assembler & Debugging Techniques
- Day 4 – Multithreading
- Day 5 – Underneath POSIX
- Day 6 – C++: Basics and Beyond
- ... slides on the website

Lehrveranstaltungen



Complex Lab Systems Programming

Happy hacking!