

ADVANCED OPERATING SYSTEMS

INTRODUCTION

<https://tud.de/inf/os/studium/vorlesungen/aos>

HORST SCHIRMEIER

Organisation

- Lecturers: Prof. Dr.-Ing. **Horst Schirmeier** (TUD), Dr.-Ing. **Carsten Weinhold** (BI)
+ several more research-group members
- Website for lecture + exercise materials, schedule, live-stream link (BBB), mailing list:
<https://tud.de/inf/os/studium/vorlesungen/aos>
- **Mandatory: register for mailing list** (see website)
 - must use TUD mail addresses
- Hybrid format (BBB, recordings, both “best effort”)
- **Lecture:** Monday, 11:10, APB/E008
- **Exercise:** Monday 13:00, APB/E009
 - Starting 2026-04-27 (with some gaps), schedule on the website
- **High attendance this year** – please use live stream in case E008/E009 is full!

Exam

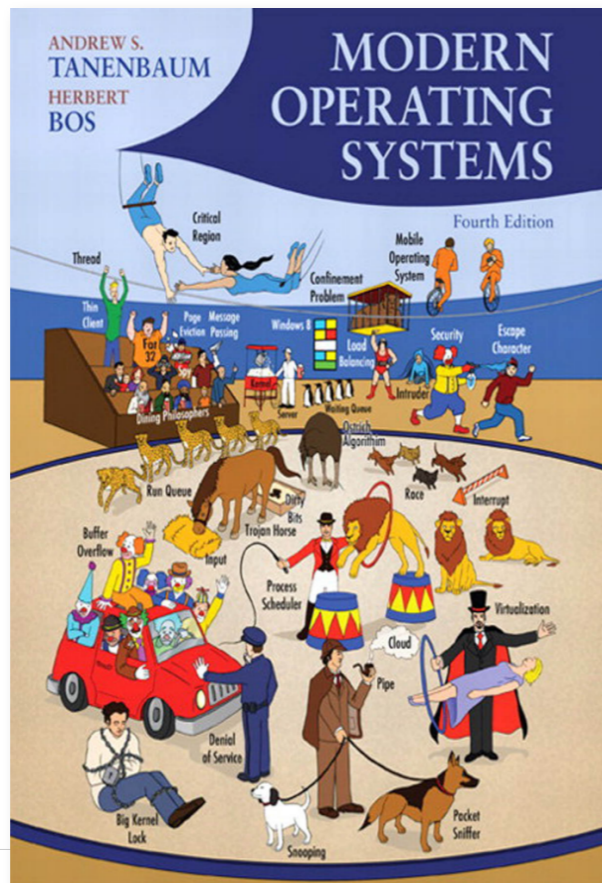
- Master Computer Science (module INF-25-Ma-FSA-AOS)
 - **Written exam** (60 minutes) after the lecturing period
- Others (e.g. module INF-BAS4, INF-VERT4): **Oral exam**, after the lecturing period
 - Contact os@mailbox.tu-dresden.de for an exam appointment **early**
 - Matriculation number; degree program (Master Informatik, DSE, IST, ...); Module name (e.g., INF-BAS4); “AOS w/ Dr. Weinhold” (or: Prof. Schirmeier); date wishes + constraints (e.g., “between X and Y”)
 - for INF-BAS4 / INF-VERT4: list other lectures + examiners
 - Expect delays due to second-examiner sync. (*Komplexprüfung*), vacation period, etc.
 - Language: German or English (or mixture)
- Make sure to keep the **exam registration deadline with the examination office!** (should be ~mid June – see the [examination office website](#))
- **Topics:** lecture AND exercise contents

Advanced Operating Systems (AOS) – Contents

- **High-level OS topics:**
 - OS architectures, modern file systems, real-time systems, cloud computing / virtualization, mobile OSs, synchronization, trusted computing
- **Low-level, HW/SW interface topics:**
 - Memory consistency models, novel memory technologies, high-performance I/O, side channels
- Some overlap with “Distributed Systems” (Dr. Springer / Prof. Wählich) and some classes by Prof. Fetzer

Literature

- [1] A. Silberschatz, P. B. Galvin, G. Gagne. *Operating System Concepts*. Wiley, 2018.
 - [2] A. Tanenbaum, H. Bos. *Modern Operating Systems*. Pearson, 2015.
- + several scientific publications / papers announced throughout the semester



Other Lectures

