

# Computer Engineering 2

Summer

(in German: Technische Informatik 2 )

**Module-ID: FIN-INF-1103792**

| Abbreviation | Credit Points | Semester | Term | Duration   | Language | Level    |
|--------------|---------------|----------|------|------------|----------|----------|
| TI-2         | 5             | Summer   | 4.   | 1 Semester | english  | Bachelor |

|                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|-------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Link:</b>                        | <a href="#">LSF</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>Limited accessibility:</b>       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>Responsibility:</b>              | Prof. Dr. Mesut Güneş, Prof. Dr. David Hausheer                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>Lecturer:</b>                    | Prof. Dr. Mesut Güneş                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>Classes:</b>                     | <ul style="list-style-type: none"><li>• Vorlesung <i>Technische Informatik 2</i></li><li>• Übung <i>Technische Informatik 2</i></li></ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>Applicability in curriculum:</b> | <ul style="list-style-type: none"><li>- B.Sc. INF: Technische Informatik</li><li>- B.Sc. INF: Aufbaumodule (SPO 2027)</li><li>- B.Sc. CV: Informatik - Wahlpflicht</li><li>- B.Sc. CV: Computervisualistik Wahlpflicht (SPO 2027)</li><li>- B.Sc. INGINF: Technische Informatik</li><li>- B.Sc. INGINF: Ingenieurinformatik Pflicht (SPO 2027)</li><li>- B.Sc. WIF: Gestalten und Anwenden - Wahlpflicht</li><li>- B.Sc. WIF: Informatik Wahlpflicht (SPO 2027)</li><li>- B.Sc. INF (bilingual): Technische Informatik</li><li>- B.Sc. INF (bilingual): Aufbaumodule (SPO 2027)</li></ul> |

## Intended learning outcomes:

Students ...

- understand processes in operating systems
- can implement algorithms for the synchronization of processes

- understand how deadlocks occur and can implement procedures to solve them
- understand memory management and scheduling in operating systems
- can implement processes in C and develop operating system-related programs
- understand the basics of communication networks

### Content:

Introduction to operating systems and communication systems ...

- Processes & Threads
- Synchronization
- Deadlocks
- Memory management
- Scheduling
- I/O and file system
- Booting, services and security
- Networked computers and the Internet

### Workload:

56h attendance time + 94h independent work

| Pre-examination requirements: | Type of examination:            | Teaching method / lecture hours per week (SWS): |
|-------------------------------|---------------------------------|-------------------------------------------------|
|                               | Written examination 120 Minutes | Lecture (2 SWS) Exercise (2 SWS)                |

| Prerequisites according to examination regulations: | Recommended prerequisites: |
|-----------------------------------------------------|----------------------------|
| none                                                | Technische Informatik 1    |

| Media: | Literature:                                  |
|--------|----------------------------------------------|
|        | wird auf der Web-Seite der VL bekanntgegeben |

### Comments:

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