

Course description

Software Architecture



Software Architecture

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| Academic Study Board of the Faculty of Engineering | Course ID: T510033101 ECTS value: 5 |
| Teaching language: English EKA: T510033102 Censorship: Second examiner: None Grading: 7-point grading scale Offered in: Odense Offered in: Spring Level: Bachelor | Date of Approval: 22-12-2022 Duration: 1 semester Version: Approved - active |

▼ Course ID

T510033101

▼ Course Title

Software Architecture

▼ ECTS value

5

▼ Internal Course Code

SE6-SA

▼ Responsible study board

Academic Study Board of the Faculty of Engineering

▼ Date of Approval

22-12-2022

▼ Course Responsible

| Name | Email | Department |
|-----------------------|-------------------|---|
| Mikkel Baun Kjærgaard | mbkj@mmmi.sdu.dk | Mærsk Mc-Kinney Møller Institutet, SDU Software Engineering |
| Sofie Birch | sbirch@tek.sdu.dk | Uddannelsesadministration, Den Tekniske Fakultetsadministration |

▼ Teachers

| Name | Email | Department | City |
|-------------------|------------------|--------------------------|------|
| Sune Chung Jepsen | sune@mmmi.sdu.dk | SDU Software Engineering | |

▼ Programme Secretary

| Name | Email | Department | City |
|----------------|----------------|--|------|
| Anna Schollain | avs@tek.sdu.dk | TEK Uddannelseskoordinering og -support , Den Tekniske Fakultetsadministration | |

▼ Offered in

Odense

▼ Level

Bachelor

▼ Offered in

Spring

▼ Duration

1 semester

▼ Recommended prerequisites

To follow this course it is strongly recommended to have knowledge about operating systems, distribution and web technologies.

▼ Learning objectives - Knowledge

The student will be able to:

- Explain the impact of software architecture to software (systems) development
- Describe methods for specifying and eliciting architectural requirements
- Describe the architecture of software systems associated qualities
- Explain the link between software architecture, quality, and development context
- Describe steps in the selection of appropriate software architecture tactics and patterns
- Explain software architecture design decisions and how to create an architectural strategy
- Describe steps in the evaluation of software architecture

▼ Learning objectives - Skills

The student will be able to:

- Define software requirements for a software architecture
- Select software architecture tactics and patterns given specific requirements
- Transfer a selection of software architecture tactics and patterns into a software design and implementation
- Compare different software architecture tactics and patterns for a specific set of requirements
- Select and perform an appropriate software architecture quality evaluation method
- Document a software architecture in relevant views
- Apply tools to support the software architectural design and software development

▼ Learning objectives - Competences

The student will be able to:

- Ability to apply software architecture methods to address tensions among different software architectural qualities and settle the tensions in a concrete design

▼ Content

The course gives an overview of the area of software architecture. The course covers software architecture topics such as software architecture requirements, tactics and patterns, views and evaluation. The course will also cover how to combine tactics and patterns to meet requirements by an architectural strategy that address tensions among different software architectural qualities.

▼ URL for Skemaplan

Odense
Show full time table

▼ Teaching Method

Lectures, laboratory exercises, and project work.

▼ Number of lessons

48 hours per semester

▼ Teaching language

English

▼ Examination regulations

▼ Exam regulations

▼ Name

Exam regulations

▼ Examination is held

By the end of the semester.

▼ Tests

▼ Exam

▼ EKA

T510033102

▼ Name

Exam

▼ Form of examination

Written exam

▼ Censorship

Second examiner: None

▼ Grading

7-point grading scale

▼ Identification

Student Identification Card - Exam number

▼ Language

English

▼ Duration (hours)

2

▼ ECTS value

5

▼ Additional information

The form of examination in the re-examination is the same as in the ordinary examination.

▼ Prerequisites

Type

Prerequisite name

Prerequisite course

Prerequisite not found

▼ Additional information

The course has been approved by the Academic Study Board as an elective course on the Master of Science in Engineering programme in Software Engineering, provided they do not have a bachelor degree from SDU in Software Engineering.

▼ Courses offered

| Period | Offer type | Profile | Programme | Semester |
|-------------|-------------------|--|--|----------|
| Spring 2023 | Optional | Bachelor i spiludvikling og læringsteknologi, optag 2022 | Bachelor of Science in Engineering (Game Development and Learning Technology) Bachelor of Science in Engineering (Game Development and Learning Technology) Odense | |
| Spring 2023 | Optional | Bachelor i spiludvikling og læringsteknologi, optag 2021 | Bachelor of Science in Engineering (Game Development and Learning Technology) Bachelor of Science in Engineering (Game Development and Learning Technology) Odense | |
| Spring 2023 | Optional | Bachelor i spiludvikling og læringsteknologi, optag 2020 | Bachelor of Science in Engineering (Game Development and Learning Technology) Bachelor of Science in Engineering (Game Development and Learning Technology) Odense | |
| Spring 2023 | Mandatory | Bachelor i Software Engineering, optag 2020 | Bachelor of Science in Engineering (Software Engineering) Odense | 6 |
| Spring 2023 | Mandatory | Bachelor i Software Engineering, optag 2021 | Bachelor of Science in Engineering (Software Engineering) Odense | 6 |
| Spring 2023 | Mandatory | Bachelor i Software Engineering, optag 2022 | Bachelor of Science in Engineering (Software Engineering) Odense | 6 |
| Spring 2023 | Optional | Kandidat i spiludvikling og læringsteknologi, optag 2022 | Master of Science in Engineering (Game Development and Learning Technology) Master of Science in Engineering (Game Development and Learning Technology) Odense | |
| Spring 2023 | Optional | Kandidat i spiludvikling og læringsteknologi, optag 2021 | Master of Science in Engineering (Game Development and Learning Technology) Master of Science in Engineering (Game Development and Learning Technology) Odense | |
| Spring 2023 | Exchange students | | | |

▼ Studieforløb

| Profile | Programme | Semester | Period |
|---|--|----------|---------------|
| Bachelor i Software Engineering, optag 2020 | Bachelor of Science in Engineering (Software Engineering) Odense | 6 | F22, E22, F23 |
| Bachelor i Software Engineering, optag 2021 | Bachelor of Science in Engineering (Software Engineering) Odense | 6 | F22, E22, F23 |
| Bachelor i Software Engineering, optag 2022 | Bachelor of Science in Engineering (Software Engineering) Odense | 6 | E22, F23 |

