

## Course description

<b>Course abbreviation:</b>	KME/SZKPB	<b>Page:</b>	1 / 3
<b>Course name:</b>	SE Struct. and Envir. of Modern Building		
<b>Academic Year:</b>	2023/2024	<b>Printed:</b>	11.07.2025 18:08

<b>Department/Unit /</b>	KME / SZKPB			<b>Academic Year</b>	2023/2024
<b>Title</b>	SE Struct. and Envir. of Modern Building			<b>Type of completion</b>	State Final Exam
<b>Long Title</b>	SE Structures and Environment of Modern Buildings				
<b>Accredited/Credits</b>	Yes, 0 Cred.			<b>Type of completion</b>	
<b>Number of hours</b>					
<b>Occ/max</b>	Status A	Status B	Status C	<b>Course credit prior to</b>	No
<b>Summer semester</b>	9 / -	0 / -	0 / -	<b>Counted into average</b>	YES
<b>Winter semester</b>	0 / -	0 / -	0 / -	<b>Min. (B+C) students</b>	10
<b>Timetable</b>	Yes			<b>Repeated registration</b>	NO
<b>Language of instruction</b>	Czech			<b>Semester taught</b>	Winter, Summer
<b>Optional course</b>	Yes			<b>Internship duration</b>	0
<b>Evaluation scale</b>	1 2 3 4				
<b>No. of hours of on-premise</b>	0				
<b>Auto acc. of credit</b>	Yes in the case of a previous evaluation 4 nebo nic.				
<b>Periodicity</b>	every year				
<b>Specification periodicity</b>					
<b>Substituted course</b>	None				
<b>Preclusive courses</b>	N/A				
<b>Prerequisite courses</b>	N/A				
<b>Informally recommended courses</b>	N/A				
<b>Courses depending on this Course</b>	N/A				

### Course objectives:

The main objective of the State Exam in Structures and Environment of Modern Buildings is to verify that student

- successfully mastered the knowledge of design and realisation of modern buildings and their structures, including their reconstruction and modifications, using modern materials and technologies, and respecting the requirements for the quality of the internal environment,
- actively uses computational procedures and professional software for design and optimization of selected solutions,
- has the necessary professional skills, knowledge and competence from relevant expertise.

### Requirements on student

When assessing the state examination, the acquired competencies from relevant professional areas are assessed.

### Content

The State Exam in Structures and Environment of Modern Buildings is based mainly on study subjects:

- Progressive materials and constructions of buildings
- Progressive construction technologies
- Thermal protection of buildings
- Building Acoustics and Daylighting
- Reconstruction and diagnostics of modern buildings

## Fields of study

## Guarantors and lecturers

- **Guarantors:** doc. Ing. Jan Pašek, Ph.D.

## Literature

- **Basic:** ČSN EN 199x Eurokódy.
- **Basic:** ČSN EN 730540 Tepelná ochrana budov.
- **Basic:** Legislativní a normové předpisy v oblastech stavební akustiky a denního osvětlení staveb.
- **Basic:** Mercader-Moyano, P. *Sustainable Development and Renovation in Architecture, Urbanism and Engineering*. Springer, 2017. ISBN 978-3-319-51442-0.
- **Recommended:** FU, F. *Advanced Modelling Techniques in Structural Design*. Wiley-Blackwell, 2015. ISBN 978-1-118-82545-7.
- **Recommended:** Pacheco Torgal, F., Jalali, S. *Eco-efficient Construction and Building Materials*. Springer, 2011. ISBN 978-0-85729-892-8.
- **Recommended:** Athienitis, A., O'Brien, W. *Modeling, Design, and Optimization of Net-Zero Energy Buildings*. John Wiley and Sons, Inc., 2015. ISBN 978-3-433-60465-6.

## assessment methods

**Knowledge - knowledge achieved by taking this course are verified by the following means:**

Oral exam

**Skills - skills achieved by taking this course are verified by the following means:**

Oral exam

**Competences - competence achieved by taking this course are verified by the following means:**

Oral exam

## prerequisite

**Knowledge - students are expected to possess the following knowledge before the course commences to finish it successfully:**

Student must complete all prerequisites required by the study plan of the Civil Engineering - Modern Buildings study program and all conditions specified by the Study and Examination Regulations of the University of West Bohemia in Pilsen.

**Skills - students are expected to possess the following skills before the course commences to finish it successfully:**

Student must complete all prerequisites required by the study plan of the Civil Engineering - Modern Buildings study program and all conditions specified by the Study and Examination Regulations of the University of West Bohemia in Pilsen.

**Competences - students are expected to possess the following competences before the course commences to finish it successfully:**

N/A

N/A

## teaching methods

**Knowledge - the following training methods are used to achieve the required knowledge:**

Individual study

**Skills - the following training methods are used to achieve the required skills:**

Individual study

**Competences - the following training methods are used to achieve the required competences:**

Individual study

## learning outcomes

**Knowledge - knowledge resulting from the course:**

By successfully completing the state final examination, the student has demonstrated that he has acquired sufficient knowledge in the course of his studies in accordance with the requirements of the study program Civil Engineering - Modern Buildings, specialization Design and Construction of Buildings.

**Skills - skills resulting from the course:**

By successfully completing the state final examination, the student has demonstrated that he has acquired sufficient skills in the course of his studies in accordance with the requirements of the study program Civil Engineering - Modern Buildings, specialization Design and Construction of Buildings.

#### Competences - competences resulting from the course:

N/A

N/A

N/A

#### Course is included in study programmes:

Study Programme	Type of	Form of	Branch	Stage	St. plan v.	Year	Block	Status	R.year	R.
Civil Engineering	Postgraduate Master	Full-time	Navrhování a provádění budov	1	2020	2023	Specializační státnicové předměty	A	2	LS