

# SYLLABUS

Name: Structural Mechanics (BudAB>SI4STMECH19)

Name in Polish:

Name in English: Structural Mechanics

## Information on course:

Course offered by department: Faculty of Civil Engineering  
Course for department: Silesian University of Technology

### Default type of course examination report:

EGZ

### Language:

English

### Course homepage:

<https://platforma2.polsl.pl/rb/course/view.php?id=752>

### Short description:

Structural Analysis of statically indeterminate structures.

### Description:

HYBRID LECTURES: 30 h

CLASSES: 2 h

PROJECT: 18 h

LABORATORY: 10 h

Statically indeterminate structures. Force method. Displacement method (classical, iterative, matrix). Introduction to limit load capacity.

Laboratory:

Getting skills on selected programs of structural analysis.

### Bibliography:

Ghali et al.: „Structural Analysis: The Unified Classical and Matrix Approach”. Taylor & Francis

Karnowski and O. Lebed: „Advanced Methods of Structural Analysis”. Springer C.H.

Norris and J.B. Wilbur: „Elementary Structural Analysis”. McGraw Hill

### Learning outcomes:

The student knows:

principles of structural analysis of statically indeterminate rod structures, [K1A\_W04];

have skills in selected computer programs of structural analysis and solving statically indeterminate structures (internal forces and displacements) basics of limit load capacity, define computational models of computer analysis of structures; simulating various construction variants, performing static analysis and elements of dynamic analysis of statically determinate and indeterminate bar structures, as well as critically evaluating the results of these analyzes; presenting, assessing and discussing various opinions and positions concerning structural, material and technological solutions, taking into account the costeffectiveness and durability of the analysed solution [K1A\_U03, K1A\_U12].

### Assessment methods and assessment criteria:

Report of projects and laboratory 40%

Colloquium 40%

Tests 20%

Prerequisite: completion of the course Strength of Materials and Structural Mechanics.

In order to transfer partial grades, the student should contact the instructor within the first two weeks of the semester.

The syllabus is valid from the summer semester of the 2025/2026 academic year, and its content is not subject to change during the semester.

### Element of course groups in various terms:

Course group description	First term	Last term
missing group description in English (BudAB-S1-2019-sem4)	2020/2021-L	

### Course credits in various terms:

<without a specific program>			
Type of credits	Number	First term	Last term
European Credit Transfer System (ECTS)	4	2020/2021-Z	