

FEM for Civil Engineers - BMEEOTMMS51
Detailed schedule - semester 2024/25/1

Week	Date	Time	Topic
1	Sep. 04	W 12-14	Mechanics of trusses, bars in torsion and twist; differential equation, direct solution [01a-01b]
1	Sep. 05	Th 16-18	Mechanics of trusses, bars in torsion and twist; weak solution of the differential equation (energy methods) [01a-01b]
2	Sep. 11	W 12-14	Base functions, coefficients with physical meaning [01a-01b]; issuing HW 1
2	Sep. 12	Th 16-18	FEM-like base functions, piecewise integration [01a-01b]
3	Sep. 18	W 12-14	FEM for trusses [02]
3	Sep. 19	Th 16-18	FEM for plane disks [03]
4	Sep. 25	W 12-14	FEM for beams I.: Euler-Bernoulli beam [04]
4	Sep. 26	Th 16-18	FEM for beams II.: Timoshenko beam [05]
5	Oct. 02	W 12-14	FEM overview, examples for bars and plane disks; [02-05]; submission of HW 1 on 8th Oct
5	Oct. 03	Th 16-18	Ansys presentation 1
6	Oct. 09	W 12-14	Test 1
6	Oct. 10	Th 16-18	Ansys presentation 2; issuing HW2
7	Oct. 16	W 12-14	FEM for plates I.: Kirchhoff plates [06]
7	Oct. 17	Th 16-18	Ansys presentation 3
8	Oct. 23	W 12-14	No class
8	Oct. 24	Th 16-18	Ansys presentation 4
9	Oct. 30	W 12-14	FEM for plates II.: Mindlin plates [07]
9	Oct. 31	Th 16-18	Ansys presentation 5
10	Nov. 06	W 12-14	FEM for 3D solids and shells [08-09]
10	Nov. 07	Th 16-18	Ansys presentation 6
11	Nov. 13	W 12-14	Nonlinear problems [12]
11	Nov. 14	Th 16-18	Numerical integration, solution of the system of equations [11]; submission of HW2
12	Nov. 20	W 12-14	Test 2
12	Nov. 21	Th 16-18	No class
13	Nov. 27	W 12-14	Integral formulation of BVPs, methods of Ritz, Galerkin, etc [13]
13	Nov. 28	Th 16-18	FEM for stationary heat problems [10]
14	Dec. 04	W 12-14	FEM for transient heat problems [10]
14	Dec. 05	Th 16-18	Consultation, exam preparation