

UNIVERSITATEA DIN ORADEA Facultatea de Construcții, Cadastru și Arhitectură



Topics and bibliography Position 6 Associate Professor

Statics I

Topics

The Objective of Construction Statics Schematization of the analysis of structures (materials, actions, structures). Straight beams. Beams with brackets and joints. Arcs. Three-jointed spring. Bow with gutter. Flat frames. Composition. Determination of effort diagrams. Symmetrical frames. Flat hinged structures (lattice structures). Use of the principle of virtual mechanical work. Lines of influence. Definition. Means to determine. Single beams, beams with brackets and joints. Lines of influence. Frames, arches, lattice structures.

Bibliography:

1. CĂTĂRIG A., OLARIU I., PETRINA M., Statica, stabilitatea și dinamica construcțiilor, Vol. 1. Editat de Institutul Politehnic din Cluj-Napoca, 1983.

2. CĂTĂRIG A., KOPENETZ L., TRIFA F., CHIRA, N., Statica construcțiilor – Structuri static determinate, Vol. 1. Editura MATRIX – ROM, București, 2001.

3. CĂTĂRIG A., PETRINA M., KOPENETZ L., CHIRA, N., MATHE ALIZ, BÂLC ROXANA, Statica construcțiilor – Structuri static determinate,. Editura U.T. Press, Cluj-Napoca, 2011.

4. CĂTĂRIG A., BĂNUȚ V., Statica, stabilitatea și dinamica construcțiilor. Calculul practic, Vol. 1. Editat de Editura DACIA, Cluj-Napoca, 1985.

5. CĂTĂRIG A., KOPENETZ L., DEUȘAN SIMONA, BÂLC ROXANA, MIHAELA PLOAE Statica construcțiilor (Teorie și aplicații) – Structuri static determinate, Vol. 1. Editura U.T. Pres, Cluj-Napoca, 2003.



UNIVERSITATEA DIN ORADEA Facultatea de Construcții, Cadastru și Arhitectură



Means of transport

Topics:

1. The unitary transport system. General facts. Transport systems. Road transport.

2. Geometric and constructive elements. Infrastructure and superstructure. Geometric elements in plan of the means of transport

- 3. Characteristic elements in longitudinal profile.
- 4. Characteristic elements in transverse profile.
- 5. Resistances encountered by vehicles while driving
- 6.Circular curves. General facts. Radii of circular curves. Drawing circular curves.

7.Progressive curves. The need to introduce progressive curves. Conditions imposed on progressive curves. Types of progressive curves. The length of progressive curves.

- 8. Clothoid. Basics. Properties of clothoid. Tracing the clothoid. Types of clothoid connections.
- 9. Increased bank. Aggradation of the carriageway into a curve.
- 10. Arrangement of curves in plan and space on roads. Arrangement of insulated curves.
- 11. Plan and space arrangement of curves on roads. Arrangement of successive curves.
- 12.Longitudinal profile. Red line design criteria. Gradient connection.

13. Transverse profile of roads and streets. Transverse profile elements, width of the carriageway, overwidth of the curved carriageway.

14.Terminology for bridges. Elements characteristic of bridges. Classification of bridges. Standard convoys.

Bibliography:

- 1. F. BELC Căi de comunicație terestre și lucrări de artă, vol. I, Timișoara, 1996.
- 2. S. DOROBANTU et. all. Drumuri.Calcul și proiectare, București, 1980.
- 3. STAS 863-85.
- 4. R.P. IONEL Poduri din beton armat, București, 1981.