

BIWE-03: Timber and Lightweight Structures (Prof. Stroetmann, Prof. Haller)

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Prerequisite Knowledge

- Mechanics, theory of structures, differential equation method, mechanical behavior of steel, basics in design of steel structures
- Mechanical and physical behavior of wood, basics in design of timber structures

Topics of Project and Master Thesis

- Stability of steel structures
- Sustainable use of steel
- Construction and design with high strength steels
- Brittle fracture of old steel structures
- Vernacular wooden buildings in your country
- Experimental study on structural timber

Literature

- Trahair, N.S.: Flexural-Torsional Buckling of Structures. Publisher: Taylor & Francis Group (Jun 1993)
- Da Silva L. S., Simoes R. and Gervasio H.: Design of steel structures. ECCS Eurocode Design Manual, Publication by Ernst & Sohn (1st Edition 2010)
- Nussbaumer A., Borges L. and Davaine L.: Fatigue Design of Steel and Composite Structures. ECCS Eurocode Design Manual, Publication by Ernst & Sohn
- Beg D., Kuhlmann U., Davaine L. and Braun B.: Design of plated structures. ECCS Eurocode design manual. Publication by Ernst & Sohn, 2010.
- Seidel M.: Tensile Surface Structures. A Practical Guide to Cable and Membrane Construction: Materials, Design, Assembly and Erection. Publication by Ernst & Sohn (2009-03)
- J. Natterer, T. Herzog, R. Schweitzer, W. Winter, M. Volz: Timber construction manual, Birkhäuser, 2004