

Lecture
River Engineering
(LV-Nr. 6222701)

Lecturer:	Prof. Dr. Mário Franca		
Time:	Friday, 14:00 to 15:30		
Place:	Building: 10.50 (L/E)	Room:	Größer Hörsaal (L/E)
Is offered in:	Summer Term		

Content:

River Engineering offers an overview of catchment and river network processes, highlighting the tradeoffs between human usage, safety, and natural preservation. The course covers: i) sediment management, ii) design and calculation of river engineering works like channels, riverbank protection, levees, groynes, and detention basins, and iii) river restoration measures. Upon completing the course, students will possess the engineering principles necessary to plan, design, and manage river systems, and apply their knowledge to analyze basic river hydro-morphodynamic processes.



Fig. 1: Left: Rivers Betsiboka and Mahavavy transporting sediments into the ocean (Source: Copernicus EU). Right: Sedimentation in the reservoir of Turtmann dam, Switzerland (Source: Knoblauch et al., 2005).



Fig. 2: Left: Instream River Training at the Brigach (Source: wald-corbe.de). Right: River Bank protection with riprap (Source: Trout headwaters, Inc).