

Department of Rail Technology and Mobility

Bachelor- & Master Programmes | Research Institute



At a glance

The study programmes and research activities of the Department of Rail Technology and Mobility at St. Pölten University of Applied Sciences respond to the current political, economic, and environmental challenges of finding sustainable transport solutions for the 21st century.

Railways are complex systems. Throughout Europe there is a scarcity of specialist personnel who can draw on knowledge from a sufficiently wide range of disciplines to understand the railway from a holistic perspective. The study programmes in the Department of Rail Technology and Mobility deal with the 'railway system' in its entirety. Based on advanced knowledge in the field of structural engineering, railway operations, system technology and management of railway systems, the graduates are well prepared for the complex requirements of practical work in railway companies, in the railway-related industry and in consulting companies.

Bachelor Programme

Rail Technology and Mobility

Future mobility demands environmentally friendly solutions and efficient transportation of cargo. Such transportation systems make high demands on graduates. Therefore they obtain technological, legal, economic and traffic planning know-how in this programme. In semester five and six students have to choose their field of expertise from one of the three specializations:

- Railway operation and systems engineering
- Structural engineering
- Management of railway systems

Graduation: Bachelor of Science in Engineering (BSc)

Length of course: 6 semesters, full-time and part-time

Further Education

European Railway Systems

The tri-national profile (Austria, Germany and Switzerland) of the continuing education master course is based on the main requirements of railway corporations and authorities by involving the three leading national railway corporations (DB, ÖBB, SBB). The programme offers students with a background in railway engineering a more comprehensive understanding of railway systems. The course takes place rotationally at the three partner universities in Erfurt, St. Pölten and Winterthur.

Graduation: Master of Science (MSc)

Length of course: 4 semesters, part-time

Master Programme

Rail Technology and Management of Railway Systems

The three specializations prepare graduates for the complex challenges in their later professional lives:

- Railway operation and systems technology
- Structural engineering
- Management of railway systems

The master programme builds on the bachelor programme Rail Technology and Mobility. However, students with a bachelor degree in a related technical field such as construction engineering, mechanical engineering or electrical engineering, may also enrol. Additional tests may be required.

Graduation: Master of Science (Dipl.-Ing.)

Length of course: 4 semesters, part-time



Department Highlights

The Department of Rail Technology and Mobility with its high-quality programmes and research activities cooperates with national and international partners as well as with the Austrian Federal Railway (ÖBB), Siemens Infrastructure & Cities, Schieneninfrastruktur Dienstleistungsgesellschaft (SCHIG), Frequentis, the Research Centre for Railway Engineering at Vienna University of Technology and others.

Practical Training

A strong emphasis in the study programmes is put on practical training. Basics of railway operations are taught at specific training sites of the Austrian Federal Railway and in the UAS-railLAB using simulators for train drivers and for signal boxes, software for the simulation of railway networks and railway operation and software for infrastructure planning. In addition, guided field trips offer students insights into various operational processes of railway systems, the railway supply industry, signalling installations, power plants, energy supply facilities, marshalling yards and construction sites.

Research Activities at the Carl Ritter von Ghega Institute for Integrated Mobility Research

Shifting more transport from road to rail is frequently voiced as a central demand of politicians and poses a considerable challenge in the fields of management and technology. Since the railway system is extremely complex and must always be considered in its entirety, research activities in the Department of Rail Technology and Mobility are wide-ranging in scope. They cover topics related to the movement of people and goods, construction and safety technology, power supply, railway operation, transport economics and additional disciplines which in their totality comprise the railway system.

Current fields of research

- Human – Machine Interaction
 - Control Centre Technology
 - Shunting Technologies
 - Ergonomics at the Workplace
- Human – Traffic System Interaction
 - Safety in Public Transport
 - Usability of Subsystems
 - Accessibility to Multimodal Mobility Forms
- Lifecycle of Technical Systems
 - LCC, LCA, LCP
 - Sustainable Procurement
 - Optimization of Railway Infrastructure and Vehicles





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St. Pölten UAS

St. Pölten University of Applied Sciences

St. Pölten is a 25 minute train ride west of Vienna on the Rhine-Danube Corridor with multiple international railway and motorway connections.

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