

Course Specifications

Valid as from the academic year 2024-2025

Railway Technology Fundamentals (E053642)

Course size					
Credits 3.0	Study time 90				
Course offerings in ac	ademic year 2025-2026				
A (semester 2)	English	Gent			
Lecturers in academic	: year 2025-2026				
Bonne, Hendrik			TW08	lecturer-in-c	:harge
Offered in the following programmes in 2025-2026				crdts	0

ered in the following programmes in 2025-2026	crdts	offering
Master of Science in Electrical Engineering Technology(main subject Automation)	3	А
Master of Science in Electrical Engineering Technology(main subject Electrical	3	А
Master of Science in Electromechanical Engineering	3	А
Master of Science in Electromechanical Engineering Technology	3	А
Master of Science in Mechanical and Electrical Systems Engineering	3	А

Teaching languages

English

Keywords

spoorvervoer, rollend materieel, tractie, remsystemen, veiligheid, adhesie, loopstabiliteit

railway transportation, rolling stock, traction, braking, safety, adhesion, running stability

Position of the course

This course treats the basics of railway technology. It is an application of mechanics and electrotechnical technology.

Contents

- Railway transport: context, economical, ecological and sociological aspects
- traction systems: types
- Rolling stock: basic concepts, traction equipment, braking systems
- Railway guidance: driving resistance, adhesion, power, running stability
- Propulsion of train vehicles
- tracks

Initial competences

mechanical, electrotechnical and electronics basics

Final competences

- 1 Being able to explain electrical traction.
- 2 Being able to explain running stability.
- 3 Being able to make choices in rolling stock braking systems.

Conditions for credit contract

Access to this course unit via a credit contract is determined after successful competences assessment

Conditions for exam contract

This course unit cannot be taken via an exam contract

Teaching methods

Excursion, Lecture

Extra information on the teaching methods

Company visits are aimed at rolling stock and train operation

Study material

Type: Syllabus Name: Railway Technology Fundamentals Indicative price: € 5 Optional: no Language : English Number of Pages : 150 Available on Ufora : No Online Available : No Available in the Library : No Available through Student Association : No Additional information: the course might be available via the student organization

References

Course content-related study coaching

Assessment moments

end-of-term assessment

Examination methods in case of periodic assessment during the first examination period

Oral assessment

Examination methods in case of periodic assessment during the second examination period

Oral assessment

Examination methods in case of permanent assessment

Possibilities of retake in case of permanent assessment

not applicable

Extra information on the examination methods

During examination period: oral closed-book exam

Calculation of the examination mark