

LECTURERS

Main

Eduardo Fortunato
José Nuno Varandas
Madalena Barroso
Maria João Falcão Silva
Marta Carvalho
Paula Couto
Simona Fontul
Tiago Silva
Zuzana Dimitrovová

Invited

Ana Maria Fonseca
André Marques Paixão
Elsa Lourenço Alves
Filipe Telmo Jeremias
Joana Carreto
João Bilé Serra
José Delgado Muralha
Luís Oliveira Santos

Classes also include lectures given by personalities of recognized merit in the field.

STUDY SCHEDULE

Training will be given online on Zoom platform in post working hours, on Fridays from 5pm till 9pm and on Saturdays from 9am GMT. The end of training on Saturdays will depend on the selected optional units, however, the number of hours per week will be 10 hours.

STUDY FEE

1500€

APPLICATION PERIOD

From February 15, 2024, to March 12, 2024
Vacancies: 25

ADMISSION - MINIMUM REQUIREMENTS

- 1st cycle of higher education in engineering sciences.
- Specialization in civil engineering, or mechanical engineering or other considered related.
- Exceptions will be analyzed individually.

RANKING - SELECTION METHOD

- Academic education.
- Professional experience.
- Possible selection interview.

REHABILITATION OF RAILWAY INFRASTRUCTURES

POSTGRADUATE STUDY - 5th EDITION

INSTITUTIONS

ORGANIZED BY



LABORATÓRIO NACIONAL
DE ENGENHARIA CIVIL

SUPPORTED BY



Infraestruturas
de Portugal

COORDINATOR

Zuzana Dimitrovová
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SCIENTIFIC COMMITTEE

Zuzana Dimitrovová (FCT NOVA)
Eduardo Fortunato (LNEC)
Paula Couto (LNEC)

CONTACT

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<https://sites.fct.unl.pt/postgraduate-study-rehabilitation-railway-infrastructures/>

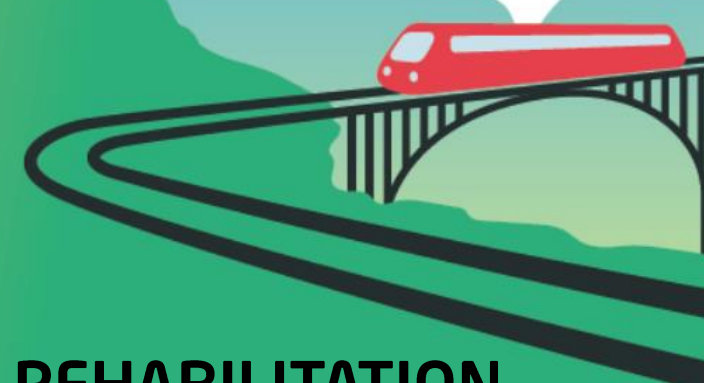
NOVA

NOVA SCHOOL OF
SCIENCE & TECHNOLOGY

REHABILITATION OF RAILWAY INFRASTRUCTURES

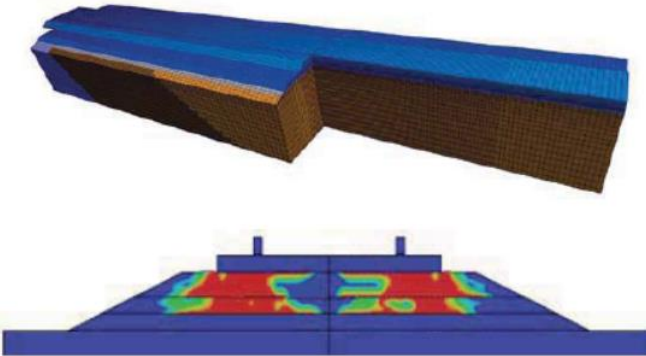
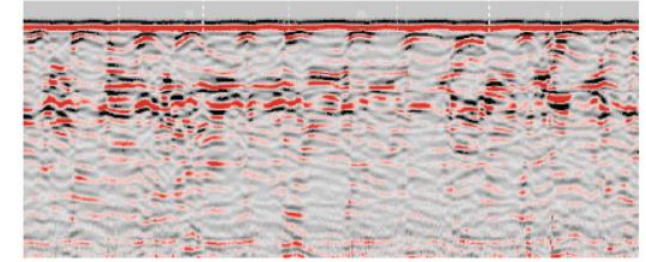
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REHABILITATION OF RAILWAY INFRASTRUCTURES

POSTGRADUATE STUDY



OPTIONAL MANDATORY

OBJECTIVES

The course aims to provide trainees with the acquisition of a set of multidisciplinary knowledge, in the area of ballasted railway track rehabilitation, theoretical and practical, enriched by lectures given by recognized personalities in this area.

- Fundamental concepts about railway inspection and rehabilitation techniques.
- The use of computational tools is promoted in several curricular units.
- The focus on the use of new materials, such as geosynthetics, is also supported.

COMPETENCES

Trainees should acquire the ability to assess the current state of the railway, propose efficient and effective rehabilitation measures, and evaluate their additive value in terms of improving the dynamic performance of the track. The knowledge acquired will provide complementary competence to current Pre-Bologna Graduates, or Post-Bologna Masters. The course is also beneficial for students who only finish the 1st cycle of higher education.

CAREER OPPORTUNITIES

The study aims to provide specific training useful to the railway sector, which will allow the graduates to access the labour market more easily or to continue on a research and development program. The study is also directed to professionals to improve their current qualifications.

STUDY PLAN

The necessary number of passed credits to obtain the Diploma of the course is 16 ECTS.

CURRICULAR UNITS	TRAINEES WORK		CREDITS
	TOTAL	CONTACT	ECTS
Railway Rehabilitation Techniques	98	28	3.5
Railway Inspection	98	28	3.5
Geosynthetics in Railway Rehabilitation	42	12	1.5
Dynamic and Long-Term Behavior of the Railway	56	16	2
Models for Calculating the Dynamic Performance of the Railway	70	26	2.5
BIM Methodology and Technical Databases	42	12	1.5
Signal Processing for Condition Assessment	42	12	1.5
Decision Support Methods	42	12	1.5
Numerical Simulation of Railway Accidents for Passive Safety Analysis	42	12	1.5