Rheology of bituminous materials

Professor

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Institution

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General Information

The aim of the lectures is to introduce the basic principles of rheology as they apply to asphalt binders, introduce measurement principles and analytical concepts, and provide a hands-on experience in the laboratory that is closely integrated with the classroom work. The most used rheological models will be presented and evaluated.

Course Contents include:

- Introduction to rheology / basic principles
- Rheology of asphalt binders and physical property testing
- Hands-on laboratory sessions
- Handling of binders in the laboratory
- Analysis and interpretation of laboratory data
- Errors in rheological measurements
- Use of rheological data in specification sin U.S. and Europe
- Rheology and relationship to performance
- Rheological models
- Future directions and needs

The course will be held in presence with some hours in laboratory and it will be in English.

Materials

Material (slides, books) will be given to the students before or after the lectures.

Schedule

Dates	Description
27.03.2024 – H 9:00-12:00	Introduction to Rheology
10.04.2024 – H 9:00-12:00	Rheology of asphalt binders and technical specifications in EU and USA
17.04.2024 – H 8:00-14:00	Hands-on laboratory sessions, preparation of samples and explanation of the different instruments and geometry to be used
07.05.2024 – H 9:00-12:00	Analysis and interpretation of laboratory data and relationship with the perfomrances
14.05.2024 – H 9:00-12:00	Rheological models
	Total 18 Hours - 3 Credits

Other information

Location: School of Engineering, Largo Lucio Lazzarino 1, Pisa. The course will take place in the room at the entrance of the Institute of Civil engineering at Building A: Section of Transport Infrastrucute, Geomatics and Geotechnics and in the laboratory of Road Engineering.

The course will be approved after an oral examination of the students based on elaboration of laboratory data.

For any information www.indicee.unifi.it - dott-dicea@unifi.it