



**The Finnish Society for
Rock Mechanics**

presents

Short Course on

**MODERN ROCK ENGINEERING
PRINCIPLES**



September 12, 2022

Espoo, Finland

material in an accessible and lively manner.

General Info

This new and unique course presents the links between rock engineering and structural geology, particularly in relation to modern design approaches such as those presented in Eurocode 7. By attending this course participants will learn and why how modern design principles differ from those of the past, the structural geology knowledge necessary to implement these, and how the two should be combined to generate robust rock engineering designs.

The course will be given jointly by:



Professor John Harrison

of the University of
Toronto, Canada



Professor John Cosgrove
of Imperial College
London, UK

Since 2010 John Harrison has been heavily involved in the development of Eurocode 7 for rock engineering design, and currently chairs the ISRM Commission on the Evolution of Eurocode 7.

John Cosgrove brings over 30 years experience as a structural geologist advising internationally on complex rock engineering projects.

The two Johns have worked and taught together for many years, and use this experience to present the

Course content

The course comprises a series of sessions that interlink key topics in rock engineering and structural geology.

It begins with an introduction to modern rock engineering design approaches, highlighting the role that an understanding of geological variability and uncertainty plays in these.

The sessions that follow look in more detail at specific geological inputs, in particular those associated with natural brittle failure phenomena in the Earth's crust. This is followed by sessions on in situ stress from both the geological and engineering points of view, and specifically dealing with the challenges of making and interpreting stress measurements.



Sessions on the geological development of fractures and fracture sets, and the principles of fracture analysis follow, leading to sessions on the complexity and

engineering properties of rock masses in the context of modern design approaches.

The final sessions deal with the challenges of determining meaningful rock mass properties for reliability-based design, and explain both the genesis and evolution of Eurocode 7, and the very particular implications its introduction has for rock engineering design and construction.

Who should attend the course?

The course is aimed at those working with geoengineering projects – rock engineers, geologists and students – who wish to obtain better knowledge of both the principles embodied in Eurocode 7 and how an understanding of structural geology and geological environments can help in the development of rock engineering designs to Eurocode 7.

There is no requirement to be a specialist in the subjects to be covered, but this is a higher-level course and at least a background knowledge of structural geology and customary rock engineering design and will be helpful.

Academic Credit

Course certificate will be issued containing a description of the program. Check with your supervising professor if academic credit is granted.

Course Materials

Electronic download link will be provided to download the course notes prior to the course.

Welcome to the course!

