

PhD course in "Frost in Geotechnical Engineering"

You are hereby invited to participate in the PhD course entitled "Frost in Geotechnical Engineering" during the fall semester 2014. Credit points are 7,5 hsp.

The course starts on September 8, 2014 at 13.00 to 16.00. It is given at LTU with the target group of PhD students, but others are also welcome. If needed, the course can be followed on distance by using our distance learning system. Seminars will be a part of the course as well as some laboratory work. Some physical meetings will therefore be needed at LTU.

Main content will be: frost in ground, frost penetration, frost heave, classification of soils, thaw weakening, mechanical and thermal properties of frozen ground, some permafrost engineering and some aspects of artificial frozen ground. The language will be Swedish or English if needed.

Main supervisor: Professor Sven Knutsson, LTU.

Literature: Main literature to be used is: **Frozen Ground Engineering**, 2nd Edition
O. B. Andersland and B. Ladanyi, ASCE
ISBN: 0-471-61549-8; 360 pages; John Wiley & Sons.
2004

In addition reports and hand-outs will be provided.

Course structure: The content of the textbook will be covered. Each part of the book is introduced by lecture (-s). Each course participant will also write a seminar report related to the text or other relevant problem covered in the course. Subject is chosen together with the supervisor. The written report will be presented orally and opposition will be provided by other participants. Everyone is supposed to take active part in discussions. All papers are to be printed in a joint booklet, which will be provided to all participants. A number of assignments will be given, as well as one bigger assignment related to the use of modern software for frost depth and frost heave calculations. A number of laborations in soil laboratory will also be a part of the course.

Information: Additional information can be provided by Sven Knutsson, tel. +46 920 49 33 12 or +46 70 63 00 486. By e-mail: Sven.Knutsson@ltu.se. Detailed



course program with time schedule etc will be provided during week 30 (July 21-25), 2014.

Sign up: Being interested, you are asked to sign up for the course not later than August 25, 2014 to Sven Knutsson. It can preferably be done by e-mail: Sven.knutsson@ltu.se

Cost: For participants not being PhD students a cost of approx. € 300 will be charged.