



Examenskod ACEX10



On the stability of un-saturated natural slopes

Occasionally, the classical stability calculation of a stable natural slope yields a safety factor that is less than one. This suggests that the slope should have already failed. How can this be explained? Are we missing something in our calculations?

Besides introducing the basic concepts related to the mechanical behavior of unsaturated soil, the project discusses a simple analysis method to include partial saturation effects in slope stability calculations. The employed hydraulic boundary conditions in the project resemble possible scenarios of environmental loadings (evaporation, rainfall, etc.). The project language is English.

Literature recommendation:

- Fredlund, D.G. and Rahardjo, H., 1993. Soil mechanics for unsaturated soils. John Wiley & Sons.
- Duncan, J.M., Wright, S.G. and Brandon, T.L., 2014. Soil strength and slope stability. John Wiley & Sons.

Target group of students

Civil Engineering

Group size

3-6

Special requirements

BOM355

Suggestion from

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Can the project be duplicated?

Yes

If any of the following aspects to be integrated

Digitalization

Sustainability

Climate change

Gender equality, equal treatment and diversity

Other