

Introduction to Surface Hydrology (2 Credits)

1-2-5100

Description:

The course deals with the concepts and applications of hydrology in general terms.

Objectives:

To introduce flow processes in the nature, assessment methods of water yield and of flood risk and concepts of hydrological planning.

Structure:

Lectures and class exercises of 2 hours a week during 1 semester.
A final examination will be held at the end.

Program:

Week Subject

1. Introduction, the hydrological cycle, conceptual surface water modeling
- 2 Precipitation
3. Infiltration and evapotranspiration.
- 4 Springs, streamflow behavior, time-area-concentration curve
- 5 Unit hydrograph
- 6 Flood risk
- 7 Flood routing in channels and in lakes
- 8 Urban hydrology.
- 9 Reservoir yield, droughts.
- 10 Sediment transportation, water quality
- 11 Hydrological models. Example of HEC/HMS application
- 12 Hydrological planning, environmental effects.
- * Final examination.

Lecturer: G. Carmi

Recommended Reading:

Maidment, D.R. (ed.) (1993). *Handbook of Hydrology*. McGraw-Hill.

Ward, A.D. & Elliot, W.J. (eds.) (1995). *Environmental Hydrology*. Lewis, Boca Raton, FL.

Singh, V.P. (1995). *Environmental Hydrology*. Kluwer.