The Department of Hydrology and Water Resources Management is involved in many interdisciplinary research projects and teaches master, bachelor and PhD students from many branches like e.g. agriculture, biology, geography and different master courses of applied ecological sciences. Hydrological modeling is part of the curriculum since 1988. It has moved from the subject for specialists with a deep knowledge of numerics, computer science and mathematics to a basic component of all hydrological courses. During the first years, we focussed on in-depth teaching of theory and practice of one big model, but the students found it hard to follow and had many practical problems, e.g. with statistical analysis of model results. During the last years we switched to a broader policy and a multi-level education. Modeling is now part of nearly all courses, but remains limited to mostly 2-4 days of teaching. We present only very basic theory and expect the students to discover the details during the practical work with pre-installed data sets. If students are interested in a deeper understanding we offer additional courses in applied modelling, setup of models and model development. The poster shows how the models SWAT, Hydrus, Coupmodel, SIMPEL and PC-Raster are embedded in the hydrological curriculum, the problems we experienced in teaching and an outlook of future changes and adaptations.