

ABE6265- Vadose Zone Water and Solute Transport Modelling

2021 Summer A (in-class & online sections)

Instructor: R. Muñoz-Carpena, Professor, ABE

Catalog Description: 3 credits. Unsaturated zone modeling of water flow and solute transport processes. Comparative analysis of alternative mechanistic modeling approaches of different complexity.

Objectives:

- Understanding fundamentals of soil hydrology: flow, solute transport, and water quality.
- Step-by-step development and testing of numerical code for flow and solute transport through the vadose zone.
- Exploring the opportunities of functional/simplified vs. numerical approaches for modeling water and solute transport in the unsaturated Vadose Zone.
- Use of advanced tools for formal model calibration and evaluation.
- Analysis of prediction uncertainty and global sensitivity analysis of models.
- Knowledge of High Performance Computing (HPC) throughput simulation tools for global sensitivity and uncertainty analysis of models.
- Application to student's own research area.

Full course description at

<http://abe.ufl.edu/carpena/teaching/ABE6265.shtml>

