CE 562 - Advanced Subsurface Flow and Transport

Spring 2016 –Pullman Campus
Instructor: Nick Engdahl (nick.endgahl@wsu.edu)
Jackson Hall Room 24, 12:00-13:15pm
Course number: 08777

Are you interested in groundwater flow and/or contaminant transport? Did you want to take GEOLOGY/CE 475 last fall but couldn't? Well, you're in luck! Since 475 (groundwater) wasn't offered this academic year, CE 562 will start with the basics of groundwater flow and spend about 1/3 of the term on fundamentals before moving on to more advanced concepts. We'll start with the conceptual, geologic basics of the origins of aquifers and slowly move on to the mathematical models used to describe saturated flow in permeable materials. This will include topics like pumping, recharge, and storage in idealized systems, which will then be generalized for more realistic systems. After developing a solid foundation for the mechanics of flow, we'll move on to how solute transport and contaminant migration is modeled in aquifers along with some basics of residence time theory and reactions, including dual-domain and mass transfer models. A heavy emphasis is placed on connecting concepts to the equations used to make predictions and the reasons they two don't always agree. This class is designed to give you experience with the tools needed to understand the dynamics of transport processes in aquifers. You do not need to have a background in engineering or even geology for this class (though either would certainly help); all that is required is the mathematical background of a normal graduate student and an interest in the subject!.

More details can be found in the catalog entry for CE 562:
http://www.catalog.wsu.edu/Pullman/Courses/BySubject/CE