9-2013

GEO 573.01: Applied Groundwater Modeling

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FALL 2013
Geosciences 573 - 3 CREDITS
Applied Groundwater Modeling
Thursday 2:10 to 5:00 PM

Instructor: William W. Woessner (SC307)
Text: Applied Groundwater Modeling- MOODLE

Course goals and objectives: Prepare students to successfully evaluate and quantitatively analyze hydrogeologic flow problems using numerical methods.

CLASS DATE			Readings
August	28	Intro	
		The Modeling Process	
September	5	Modeling Approach	Chap 2
September	12	Conceptualizing Hydrogeologic Systems	
September	19	Mathematical Formulation	Chap 3
September	26	Finite Differences and Finite Elements, Model Execution	Chap 2
		Formulating the Numerical Model	
October	**1**	**Tuesday Class** Model Dimensionality and Setting Boundaries **MTAWRA Bozeman October 3 and 4**	Chap 3,4
October	10	Setting Boundaries and Grid Design	Chap 3.4,6
October	17	Initial Parameterization	Chap 4
October	24	Internal Sources and Sinks	Chap 5
Oct	31	Special Needs for Transient Simulations	Chap 7

Executing and Evaluating Models

November	7	Particle Tracking	Chap 8
November	14	Particle Tracking Execution and the Calibration process	Chap 9
November	21	Calibration, Prediction	Chap 9,10
November	28	No Calss	
December	4	Reporting and other models	chap 11

FINAL EXAM: **Tues December 10 3:20-5:20 Final class discussion and completion of assignments. (using the 4:10 time on the exam schedule)**

COURSE ASSESSMENT: Quality of completed assignments and class participation, timely completion of assignments.

Assignments will be made as appropriate including selections from Anderson and Woessner.

Problems may require some periods of intense work plan accordingly.

GRADING: 85% on problem completion, 15% on class participation.