

HYDROLOGY (HYDR)

HYDR 4040 (s) Special Topics (1-16 credits, max 99)

Credit arranged

HYDR 4090 Quantitative Hydrogeology (3 credits)

Joint-listed with HYDR 5090

A rigorous introduction to the description of flow in porous media; the basic equations of potential flow theory as they relate to ground water problems, with application to common engineering problems encountered by hydrogeologists and engineers; dimensional analysis, properties assignment, and heterogeneous systems. Additional reading, presentations, and/or written reports of assigned literature required for graduate credit. Typically Offered: Varies.

Prereqs: C or higher in either MATH 1160 or MATH 1170

HYDR 4120 Environmental Hydrogeology (3 credits)

Cross-listed with GEOL 4130

Joint-listed with HYDR 5120

This course provides an examination of hydrogeochemical site characterization to evaluate the transport of water-quality contaminants and the impact of the contaminants on water resources, particularly aquifers. The primary goal is an evaluation of the integration of physical and chemical tools available for determining the current state of contamination and predicting future conditions with changes in the hydrogeologic environment. Additional independent research paper required for graduate credit. Typically Offered: Spring (Odd Years).

Prereqs: GEOL 3090 Cooperative: open to WSU degree-seeking students.

HYDR 4960 Hydrogeology Senior Thesis (3 credits)

Completion of original research and report. Course is taken over two semesters; first semester is graded IP until completion of second semester.

Prereqs: GEOL 3090 or HYDR 4090/HYDR 5090 and GEOL 4100

HYDR 4990 (s) Directed Study (1-16 credits, max 99)

Credit arranged

HYDR 5000 Master's Research and Thesis (1-16 credits, max 99)

Credit arranged

HYDR 5010 (s) Seminar (1-16 credits, max 99)

Credit arranged. Graded Pass/Fail.

Prereqs: Permission

HYDR 5020 (s) Directed Study (1-16 credits, max 99)

Credit arranged

HYDR 5030 (s) Workshop (1-16 credits, max 99)

Credit arranged

HYDR 5040 (s) Special Topics (1-16 credits, max 99)

Credit arranged

HYDR 5090 Quantitative Hydrogeology (3 credits)

Joint-listed with HYDR 4090

A rigorous introduction to the description of flow in porous media; the basic equations of potential flow theory as they relate to ground water problems, with application to common engineering problems encountered by hydrogeologists and engineers; dimensional analysis, properties assignment, and heterogeneous systems. Additional reading, presentations, and/or written reports of assigned literature required for graduate credit. Typically Offered: Varies.

HYDR 5120 Environmental Hydrogeology (3 credits)

Joint-listed with GEOL 4130, HYDR 4120

This course provides an examination of hydrogeochemical site characterization to evaluate the transport of water-quality contaminants and the impact of the contaminants on water resources, particularly aquifers. The primary goal is an evaluation of the integration of physical and chemical tools available for determining the current state of contamination and predicting future conditions with changes in the hydrogeologic environment. Additional independent research paper required for graduate credit. Typically Offered: Spring (Odd Years). Cooperative: open to WSU degree-seeking students.

HYDR 5760 Fundamentals of Modeling Hydrogeologic Systems (3 credits)

Development and application of models representing physical systems, with particular emphasis on groundwater flow. Development and solution of the basic equations of potential flow will be covered, along with their assumptions and limitations. Properties assignment, parameter sensitivity, and dimensional analysis will also be discussed. The course will emphasize when modeling is appropriate, how to design a model, and how properties should be selected to achieve meaningful results.

Prereqs: MATH 2750 or Permission Cooperative: open to WSU degree-seeking students.

HYDR 5980 (s) Internship (1-16 credits, max 99)

Credit arranged

HYDR 5990 (s) Research (1-16 credits, max 99)

Credit arranged. Research not directly related to a thesis or dissertation.

Prereqs: Permission