# CWR: Civil Water Resources

# Courses

## CWR 3201 Water Resource Engineering

College of Sci and Engineering, Department of Civil Engineer & Construct Mgt

3 sh (may not be repeated for credit) Prerequisite: EML 3016

The course introduces the hydrological processes and their relationship to the design of structures for control and management of water resources, rainfall-runoff relationships, and probability and frequency analysis as they relate to surface and groundwater hydrology.

#### CWR 3201L Water Resource Engineering Lab

College of Sci and Engineering, Department of Civil Engineer & Construct Mgt

1 sh (may not be repeated for credit) Prerequisite: CWR 3201\*

This laboratory course reinforces the principles of fluid mechanics as they apply to hydraulic and pneumatic power, and fluid flow. Developing experimental data into effective laboratory reports is emphasized.

### CWR 4202 Hydraulic Engineering Design

College of Sci and Engineering, Department of Civil Engineer & Construct Mgt

3 sh (may not be repeated for credit) Prerequisite: CWR 3201

The course includes the fundamentals of fluid mechanics to the design and analysis of hydraulic systems. The course emphasizes open channel flow and addresses topics of interest to the Civil Engineer. Topics include hydraulic grade line calculations, pump design, culvert analysis and design, based flood elevation studies using HEC-RAS, non-uniform flow, gutters and inlets, water distribution, and open channel design.

\* This course may be taken prior to or during the same term.