WATER AND WASTEWATER TECHNOLOGY (WATR)

WATR 101. Introduction to the Water Industry
Credits: 3
Typically Offered: FALL
This course provides an overview of the water treatment program and the water treatment industry. It introduces students to water and wastewater treatment occupations and processes. Students study operator roles, industry requirements, common terminology and basic equipment as well as water use and characteristics.

WATR 105. Laboratory Procedures
Credits: 3
Typically Offered: SPRING
Students will be introduced to the chemical makeup of water and the impurities that must be removed for purification processes. Common procedures for testing and monitoring water and wastewater quality will be studied along with the calculation of chemical dosages and feed rates.

WATR 110. Water Treatment I
Credits: 3
Typically Offered: SPRING
This course will cover water sources and protection with a focus on pre and primary methods and equipment. Filtration, clarification and basic softening methods will also be studied along with pump types and applications. An emphasis will be placed on operating procedures and troubleshooting for each type of process.

WATR 115. Water Treatment II
Credits: 3
Typically Offered: SPRING
This course will instruct students on secondary and final treatment methods, processes and equipment. Disinfection methods and distribution systems will be covered in detail along with sampling, monitoring and reporting based on governmental regulations. Routine operator duties along with problem solving methods will be identified.

WATR 116. Control Systems
Credits: 2
Typically Offered: FALL
This course provides a comprehensive study of instrumentation components, control theory, control systems and typical controllers associated with the operation of water and wastewater treatment facilities.

WATR 120. Wastewater Treatment
Credits: 3
Typically Offered: SPRING
This course is designed to assist students in understanding the processes and equipment used in a wastewater treatment plant. The concepts used for biological treatment and troubleshooting the various processes will be emphasized. Collection systems operation and maintenance will also be covered.

WATR 220. Practical Applications
Credits: 3
Typically Offered: FALLSPR
In addition to coursework students will complete an internship/job shadow experience at a water treatment facility or hands-on lab activities at BSC's National Energy Center of Excellence. This experience will require students to observe and assist in the daily operations of a functional water or wastewater treatment facility. The hands on training is expected to include lab testing, process checks, basic problem solving and routine maintenance activities.