

**IPOP-2680** 1 CREDITS      MUNICIPAL WATER TREATMENT OPERATIONS

## SYLLABUS

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### CATALOG DESCRIPTION:

This course provides the basic fundamentals involved with the operation of a municipal drinking water treatment facility. It includes such topics as: the sources of water and their contaminants, treatment processes used in removal of contaminants, descriptions and operation of the equipment, safety procedures and regulations used to govern and protect the quality of drinking water and its distribution systems. This class along with the Applications of Municipal Water Treatment will prepare the student to take a preliminary certification exam.

Prerequisites:              Faculty Approval, Math 1170 or higher

Semester Offered:      All

### **Common Student Learning Outcomes**

*Upon successful completion of San Juan College programs and degrees, the student will demonstrate competency in...*

#### **BROAD AND SPECIALIZED LEARNING**

Students will actively and independently acquire, apply, and adapt skills and knowledge with an awareness of global contexts.

#### **CRITICAL THINKING**

Students will think analytically and creatively to explore ideas, make connections, draw conclusions and solve problems.

#### **CULTURAL AND CIVIC ENGAGEMENT**

Students will act purposefully, reflectively, and ethically in diverse and complex environments.

#### **EFFECTIVE COMMUNICATION**

Students will exchange ideas and information with clarity in multiple contexts.

#### **INFORMATION LITERACY**

Students will be able to recognize when information is needed and have the ability to locate, evaluate, and use it effectively.

#### **INTEGRATING TECHNOLOGIES**

Students will demonstrate fluency in the application and use of technologies in multiple contexts.

*Student work from this class may be randomly selected and used anonymously for assessment of course, program, and/or institutional learning outcomes. For more information, please refer to the Dean of the appropriate School.*

## Course Learning Outcomes

Upon successful completion of the course, the student will be able to...

A copy of this approved syllabus is on file in the dean's office.

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1. Identify the different types of contaminants found in the various water sources and their effects on drinking water quality.
2. Identify key items in the Safe Drinking Water Act
3. Describe the different types of treatment processes such as coagulation, flocculation, sedimentation and filtration, key operational concerns and the equipment used in these processes.
4. Describe the different methods of disinfection, the equipment used in those methods and key operational concerns with each.
5. Identify other more specialized methods of water treatment
6. Perform mathematical calculations used in the operation of a water treatment facility
7. Identify key safety concerns in the operation of a water treatment facility
8. Identify various testing methods used in drinking water systems