

Membrane Processes

Instructor: Tony Goff

At Your Pace Online

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Oregon water treatment and distribution Operators can satisfy 2 hours toward license renewal with this course.

This course will provide an overview of Membrane Processes. Students who take this course will learn about:

- Source Water - Explore what types of source water can be treated using various membrane processes.
- Reverse Osmosis - Discover what reverse osmosis is, and the advantages and disadvantages to reverse osmosis systems.
- Nanofiltration - Educate yourself on effective use of nanofiltration and learn why this method is so effective at removing certain contaminants that other processes can't.
- Electrodialysis Reversal - Uncover how electrical current may be used to remove contaminants from water without the use of chemicals.

Syllabus:

Membrane Processes:	2h 4m
1. Membrane Processes Overview (Video)	2m
a. This video explains what a membrane is in the context of water treatment, and the global demand for fresh water.	
2. Source Water	39m
a. This section covers brackish water, quality concerns, the removal of inorganic chemicals, and the pre-treatment process for membranes.	
3. Reverse Osmosis (Video)	9m
a. This video defines osmosis and how reverse osmosis works for the treatment of water.	
4. Reverse Osmosis, Nanofiltration, and Electrodialysis Reversal	1h 12m
a. This section details the advantages and disadvantages of RO, along with nanofiltration and electrodialysis reversal.	
5. Wastewater (Video)	1m

- a. This video reviews basic concepts of membrane processes.
6. Conclusion (Video) 1m
 - a. This video offers conclusory remarks about water treatment in general.

Course Details:

Requirements:

Our system is offered online and so there are a few requirements in order to complete the course. Our course can be taken with a minimal system that meets all of the requirements below, but the learning experience will be best if the student's system meets the following recommendations as well.

Required: Internet capable device. Our course is compatible with smartphones, tablets, and traditional computers. It is not necessary that students own this device, merely that they have access to such a device.

Required: Internet connection.

Recommended: High speed internet connection. Our course uses a number of videos and therefore the experience will be better with a high speed connection.

Required: Up to date browser.

Recommended: Up to date version of Google Chrome.

Course Setup:

Course completion is tracked through questions between the sections. The questions within slides do not, however, track progress. In order to mark the course as complete, students will need to answer all of the questions attached to the course.

Upon enrolling in our course, students will have access for 365 days. After this 365 day period, they may contact us to have their enrollment renewed.

Any questions, concerns, or issues that arise while taking the class can be addressed by calling the contact number, writing to the contact email, or sending a message through the "Suggestion Box" included in the course. Any message will receive a response within one business day, though chats are usually answered within one hour.

After finishing all course content, the student will need to fill out the "Completion Questionnaire" so that their completion can be reported to the state.

Course Completion:

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

“Mandatory Questionnaire” which gives us the necessary information to report completion to the state. The student will then have access to the certificate of completion. If applicable, AYPO will report completion to the state.

Refunds:

All tuition and fees paid by the applicant shall be refunded if the applicant is rejected by the school before enrollment. All tuition and fees paid by the applicant shall be refunded if requested within three business days after the terms and conditions have been accepted (on the enrollment page). Refunds are returned within thirty business days.

After the initial three business days have elapsed, AYPO will happily refund 100% of the purchase price for any course which the student has not yet begun.

Refunds of all or some portion of the purchase price may be available in situations where the student has already started taking the course, but not yet completed it. In general, for individuals who have already completed an entire course, refunds will not be available. Our office staff may be reached at (877) 724-6150 for more information about refund requests.

Attendance and Dismissal:

Students who enroll in this class are required to complete 100% of the course to receive credit. Since this class is presented online, enrolled students are not dismissed.

Course Content:

At Your Pace Online is responsible for the content of this course.