

OEWU 190. Water and Wastewater Microbiology	3 cr.	OEWU 292. Advanced Wastewater Analysis	3 cr. (6P)
Overview of microorganisms associated with water and wastewater. Growth and reproduction, energy production, and methods of counting. Prerequisite: OEWU 130, OEWU 180, or consent of instructor.		Covers sampling techniques, analysis, and evaluation of wastewater contaminants using gravimetric, volumetric, spectrophotometric, and other instrumentation methods. Prerequisite: OEWU 190 and OEWU 192.	
OEWU 191. Biological Treatment Control Testing (su)	4 cr. (1+6P)	• P E—Physical Education Recreation and Dance	
Covers sampling, testing, and laboratory management involved in municipal wastewater treatment plants. Prerequisites: OEWU 190 and OEWU 192.		<i>Basic instruction courses (1 credit hour) meet a minimum of 1,760 minutes per semester.</i>	
OEWU 192. Water and Wastewater Microbiological Analysis	1 cr. (3P)	P E 102. Beginning Weight Training	1 cr.
Introduction to water and wastewater treatment operational tests such as BODs, solids testing, activated sludge control tests, use of microscope, and bacteriological techniques. Prerequisites: OEWU 130 and OEWU 182, or consent of instructor.		P E 103. Beginning Weight Training—Women	1 cr.
OEWU 200. Cooperative Experience	3-5 cr.	Introduction to basic principles and techniques of weight training as related to women.	
On-the-job training/work experience with municipalities or industries, working in water or wastewater treatment plants, high purity water plants, industrial waste plants, distribution systems, or wastewater collection systems. Prerequisite: consent of instructor. May be repeated for a maximum of 5 credits. Graded S/U.		P E 104. Military Physical Fitness	1 cr.
OEWU 220. Water Treatment Systems	3 cr.	Directed physical fitness activities designed to develop and maintain muscular strength/endurance, cardiopulmonary efficiency, flexibility, and coordination required for leadership roles after graduation.	
Theory of water systems operation including surface water treatment, fluoridation, sodium zeolite softening, corrosion control, iron removal, various filtration methods, and overview of SDWA. Prerequisites: OEWU 180 and OEWU 182 or consent of instructor.		P E 108. Inline Hockey Fundamentals	1 cr.
OEWU 222. Water Systems Operation	1 cr. (3P)	The fundamentals of inline hockey will be taught through a series of instructional drills, including various skating techniques (forward, backward, step-over), ball/puck handling, shooting, and passing. The playing rules of the game (as regulated by USA Hockey Inline) will also be taught. Students will be evaluated on participation, a cumulative skills mastery test, and a written final exam.	
Operations of various water treatment systems including surface water treatment, sodium zeolite softeners, and various filtration methods. Prerequisite: OEWU 220 or consent of instructor.		P E 110. Sports Conditioning	1 cr.
OEWU 230. Advanced Wastewater Treatment	4 cr.	Sport specific conditioning using aerobic and resistive overload training. Prerequisite: consent of instructor. May be repeated for a maximum of 4 credits.	
Calculations and operations involved in wastewater and water reclamation plants. Prerequisites: OEWU 140, OEWU 190, and OEWU 192, or consent of instructor.		P E 111. Team Sports – Women	1 cr.
OEWU 232. Wastewater Systems Operations	1 cr. (3P)	Instruction for physical fitness, general health, and recreation in activities such as basketball, volleyball, soccer, field hockey, and softball. May be repeated for maximum of 4 credits.	
Operation of pretreatment, primary, and biological treatment units. Prerequisite: OEWU 230 or consent of instructor.		P E 112. Beginning Volleyball – Men	1 cr.
OEWU 240. Advanced Water and Wastewater Math II	3 cr. (2+2P)	P E 113. Beginning Volleyball – Women	1 cr.
Advanced water and wastewater mathematics. Flow measurement. Systems head and pump curves. Prerequisites: OEWU 140.		P E 114. Basketball – Women	1 cr.
OEWU 250. Municipal Systems Management	4 cr.	P E 115. Basketball – Men	1 cr.
Management of water utility systems including laws, finance, records, and safety. Prerequisites: OEWU 120, OEWU 130.		P E 117. Beginning Soccer	1 cr.
OEWU 255. Special Individualized Problems in Water Technology	1-4 cr.	Introduction to the basic techniques and skills of soccer.	
Individual studies in areas directly related to water technology. Prerequisite: consent of instructor.		P E 127. Cardio-Kickboxing	1 cr.
OEWU 257. Industrial Pretreatment	3 cr.	Activities that mimic punches, blocks, and kicks which have been modified to serve the purpose of providing a cardiovascular workout.	
Industrial pretreatment regulations, program development and implementation, including correspondence, surveys and inspections. Overview of industrial wastewater treatment. Prerequisites: OEWU 120, OEWU 130.		P E 128. Aerobic Dance	1 cr.
OEWU 270. Special Topics	1-4 cr.	Designed to increase knowledge of the human body's responses to exercise, enhance the level of muscular development, and cardiovascular endurance with the use of music.	
Specific subjects to be announced in the <i>Schedule of Classes</i> . May be repeated for a maximum of 12 credits.		P E 129. Step Aerobics	1 cr.
OEWU 275. Certification Review	3 cr.	Designed to increase knowledge of the human body's responses to exercise, enhance the level of muscular development, and cardiovascular endurance with the use of music and steps.	
Review of water and wastewater plant operations and laws in preparation for state certification exams. Prerequisites: OEWU 220, OEWU 230, and OEWU 240.		P E 130. Beginning Swimming	1 cr.
OEWU 285. High Purity Water Treatment Systems	3 cr.	P E 131. Aqua Aerobics	1 cr.
Principles of high purity water production including microfiltration, ultrafiltration, reverse osmosis, and deionization. Prerequisite: OEWU 220.		Designed to increase knowledge of the human body's responses to exercise, enhance the level of muscular development, and cardiovascular endurance through exercise in water.	
OEWU 286. Advanced High Purity Water Systems Operation	3 cr. (6P)	P E 132. Aquatics Fitness	1 cr.
Operations of high purity water systems including ultrafiltration, reverse osmosis and deionization. Prerequisite: OEWU 220. Corequisite: OEWU 285.		Development of fitness through participation in aquatics activities. Prerequisite: ability to swim 200 yards.	
OEWU 287. Advanced Water Chemistry Analysis	3 cr. (6P)	P E 133. Water Polo	1 cr.
Sampling techniques, analysis, and evaluation of potable water contaminants using gravimetric, volumetric, spectrophotometric, and other instrumentation methods. Prerequisite: OEWU 285 or consent of instructor.		Fundamentals and team play for men and women. May be repeated one time. Prerequisite: P E 130 or ability to swim 100 yards.	
OEWU 290. Advanced Wastewater Microbiology and Chemistry	3 cr.	P E 134. Lifeguard Training	2 cr.
Covers NPDES permits and DMR calculations and reporting; 503 sludge regs, including pathogen and vector attraction reduction and pollutants; wetlands, composting, and wastewater treatment ponds microbiology; activated sludge bulking and foaming microbiology and treatment; and use of selector to remove nutrients and prevent the growth of filamentous bacteria. Prerequisite: OEWU 190, OEWU 192.		Skills training for a nonsurf lifeguard. Course will include Standard First Aid and CPR certification. Prerequisites: swim 500 yards, dive to 9-foot depth and retrieve 10-pound brick, surface dive to 5 feet then swim under water 15 yards, tread water one minute.	
		P E 135. Springboard Diving	1 cr.
		May be repeated one time. Prerequisite: ability to swim in deep water.	
		P E 141. Gymnastics – Men	1 cr.
		P E 142. Gymnastics – Women	1 cr.
		P E 144. Pocket Billiards	1 cr.
		Basic skills and strategies in pocket billiards.	
		P E 145. Beginning Bowling	1 cr.
		Basic skills and methods in bowling.	
		P E 147. Beginning Tennis	1 cr.

