STATEWIDE WASTEWATER OPERATOR TRAINING CENTER
WATER RESOURCES RESEARCH CENTER, UNIVERSITY OF HAWAII
HONOLULU, HAWAII

TRAINING SESSION ANNOUNCEMENT
215 – PLANT SCIENCES (PHYSICS)

County:	County of Maui
Location:	**On-Line via BlueJeans: Login info will be given via email after registration received. You must include your email address.**
Dates:	**June 16 - 17, 2021 DATES CHANGED**
Times:	8:00 a.m. – 11:00 a.m. Lunch (11:00 a.m. – 12:00 p.m.) 12:00 p.m. – 3:00 p.m.
Audience:	Operators
Educational Point:	**1.0 CEU**
Instructor:	Cassie Martin

COURSE DESCRIPTION

Plant Science #1 - Science Fundamentals cover some basic scientific principles and their applications in a process facility are introduced here, along with units of measurement for length, time, mass, pressure, temperature, flow, and level. The relationship between force and motion, the laws that apply to force and motion, the definition of work, and the relationship of work to energy are also covered. The mechanical advantages of the inclined plane and the lever illustrate a discussion of basic machines, including examples of where the mechanical advantages of these basic machines are used in process equipment. Plant Science #2 - Properties of Matter focuses on the properties of matter associated with solids, liquids, and gases, and demonstrates how these properties influence process system operation. The molecular structures and related characteristics of solids, liquids, and gases are also discussed. The unit defines and explains mass, weight, density, specific gravity, buoyancy, viscosity, elasticity, and other terms associated with the effects of stress, pressure, and temperature on the three states of matter. Plant Science #3 - Heat teaches the principles of heat transfer, the effects of heat. The relationship between temperature and thermal energy, and the effects of temperature difference on heat transfer. Sensible heat, latent boiling temperatures are covered. The unit also introduces the three modes of heat transfer and discusses the heat transfer process that takes place between two fluids separated by a solid boundary. Plant Science #4 - Process Dynamics introduce the principles and operating characteristics of liquid, gas, and vapor systems by describing the main parts of a fluid system and the effects of pressure related to static fluids and steady-state flowing fluids. Other topics covered include energy conversions that take place in fluid systems, the use of pumps to control flow, common devices to measure process variables, and the effects of resistance and capacitance on operating fluid systems.

REGISTRATION

1. County Wastewater Treatment Plant Personnel: **TUITION: Free**
   Please submit an application form to your supervisor for approval and then fax/email to the Statewide Wastewater Training Center.

2. All Other Non-Municipal and Non-Wastewater Employees: **TUITION: $110**
   Please mail application form and tuition directly to the Statewide Wastewater Training Center. Check payable to: RCUH.

   Mail to: Statewide Wastewater Operator Training Center
   University of Hawaii, Water Resources Research Center 2540 Dole Street, Holmes Hall 283
   Honolulu, Hawaii 96822

Fax: 808-956-5014 Email: uhwwtrainingcenter@gmail.com **Deadline: June 14, 2021**

For more information please visit our website: www.wrrc.hawaii.edu/waste-water-operator-training/