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**Course title / code: TECHNOLOGICAL EQUIPMENT IN FOOD PROCESSING / 03S2O-TEIFP**

ECTS credit allocation (and other scores): 3

Semester: summer

Level of study: ISCED-7 - second-cycle program EQF-7

Branch of science: Agricultural sciences

Language: English

Number of hours per semester: 15h lectures / 30h classes

Course coordinator/ Department and e-mail: dr hab. inż. Fabian Dajnowiec/ Department of Process Engineering Equipment and Food Biotechnology/ [fabian.dajnowiec@uwm.edu.pl](mailto:fabian.dajnowiec@uwm.edu.pl)

Type of classes: classes and lectures

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## **SUBSTANTIVE CONTENT**

**CLASSES:** Field classes at a plant producing apparatus for food processing food and food processing plant. Laboratory classes with use of production facilities (pasteurisation of milk/cream, UHT, drying, microfiltration, mashing machine, CIP); operation and operating characteristics of pumps, valves and process lines; construction and operation of auxiliary plants.

**LECTURES:** Contemporary apparatus techniques for thickening and drying food products foodstuffs. Design of installations for the thermal treatment of liquid foodstuffs. Contemporary apparatus solutions of technological lines technological lines in milk, fruit and vegetable processing. Latest design solutions in the construction of centrifuges and their applications in the food industry. Development of membrane techniques and their applications in food processing.

**Learning purpose:** Ability to interpret process plant circuit diagrams and the selection of appropriate components for newly designed installations process plants of the food industry.

## **ON COMPLETION OF THE STUDY PROGRAMME THE GRADUATE WILL GAIN:**

**Knowledge:** Knows and understands the construction and principle of operation of basic plant process plants of the food industry.

**Skills:** student is able to describe the construction of the principle of operation of basic equipment food industry; is able to carry out process measurements.

**Social Competencies:** student is ready to work in a group.

## **Basic literature:**

1. Bylund G., Dairy processing handbook, Wyd. Tera Pak Processing System.AB, Lund, Sweden, R. 2012
2. Spirax-Sarco, Learn about steam, Wyd. [beta.spiraxsarco.com/learnabout-steam](http://beta.spiraxsarco.com/learnabout-steam), R. 2022
3. Earle R.L., Unit Operations in Food Processing, Wyd. [www.nzifst.org.nz/resources/unitoperations/about.htm](http://www.nzifst.org.nz/resources/unitoperations/about.htm), R. 2004
4. Warechowski J., Dajnowiec F., Auxiliary materials for the subject Technological equipment in food processing, Wyd. [moodle.uwm.edu.pl](http://moodle.uwm.edu.pl), R. 2022

### **Supplementary literature**

1. BOGE, Compressed Air Compendium, Wyd. Hoppenstedt-Verlag, R. 2004 <https://www.boge.com/en/compendium>

The allocated number of ECTS points consists of: 49 contact hours with an academic teacher: Student's independent work: 26