



# CP02021 : FOOD ENGINEERING PROJECT



CREDIT: 1 (Lecture: 0 – Practice: 2)

## OBJECTIVES

The course aims to guide students in implementing a project through which students apply knowledge related to the processes and equipment used to produce a food product from raw materials. Students are required to apply theoretical knowledge with actual, specific data (looked up in technical manual, handbooks, etc.) to calculate and preliminary design some commonly used equipment in food processing. In addition, the course gives students the ability to organize group and coordinate effectively in group activities.

## COURSE EXPECTED LEARNING OUTCOMES

NOTATION	Course expected learning outcomes After successfully completin this course, students are able to:	Program expected learning outcomes
<b>KNOWLEDGE</b>		
K1	<b>Analyze</b> the requirements of each process in processing technology to convert raw materials into food products	ELO2, ELO3
K2	<b>Design</b> equipment commonly used in food processing technology	ELO4, ELO5
<b>SKILLS</b>		
K3	<b>Read</b> the main designs of equipment commonly used in heat or mass transfer in food technology to analyze its advantages and disadvantages.	ELO9, ELO13
K4	<b>Calculate</b> main dimensions and perform drawing of equipment commonly used in food processing industry.	ELO12, ELO13
K5	<b>Work in groups</b> and collaborate effectively in group activities.	ELO6, ELO7
<b>ETHICS AND ATTITUDES</b>		
K6	<b>Take the initiative</b> in finding and synthesizing information related to the project topic.	-

## COURSE DESCRIPTIONS

This course guides students to understand contents, requirements to make a food engineering project; Options of project topics related to the field of food technology include: processes and equipment for heat transfer (heating, blanching, pasteurization, sterilization); mass transfer processes and equipment (evaporation, drying); processes and equipment for low temperature processing (chilling, freezing). Students implement project on process and equipment for manufacturing a certain food product.

## LEARNING METHODS

- Implementation of project in group.
- Listening, recording, proposing questions and discussing.
- Reading before class, preparing information, doing calculations at home, answering questions.

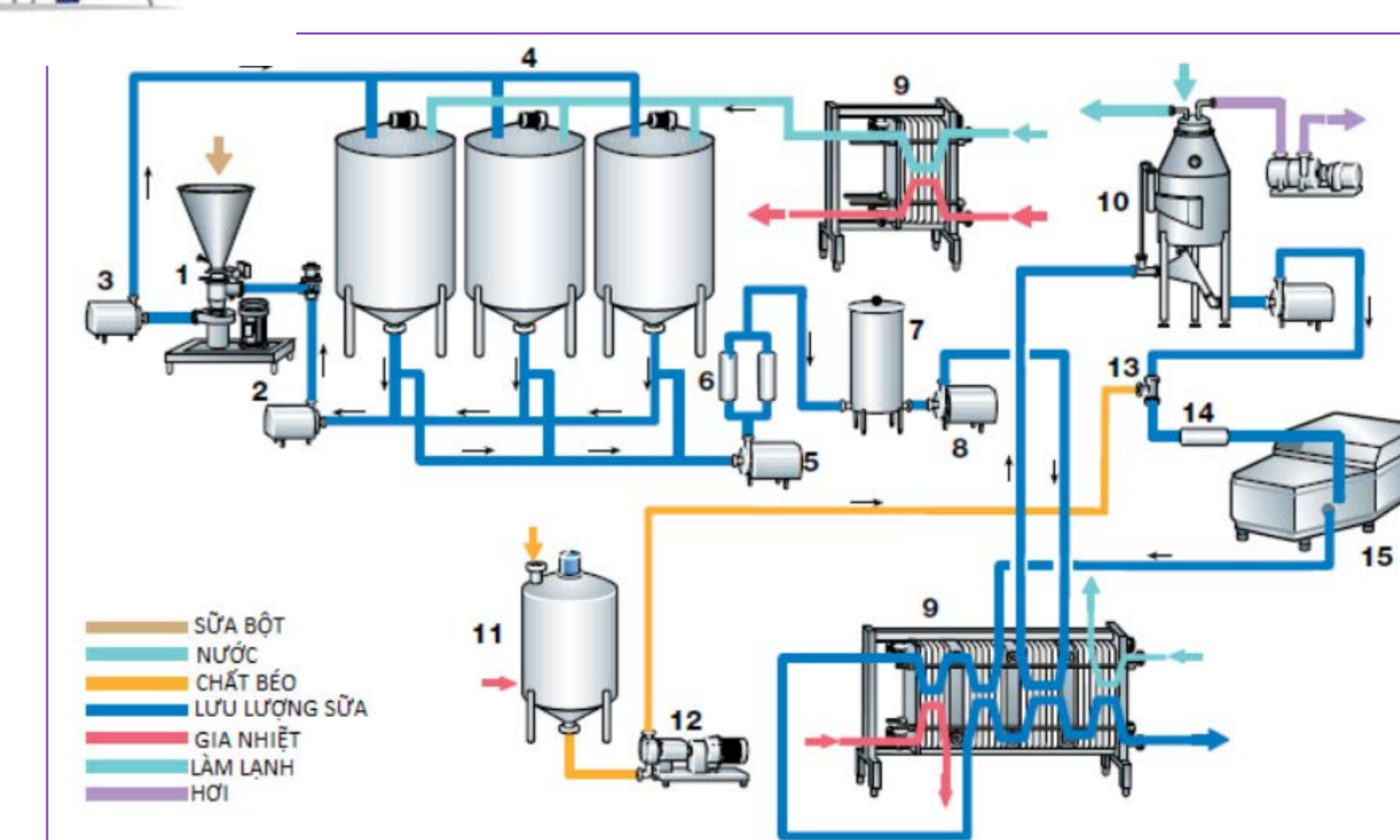
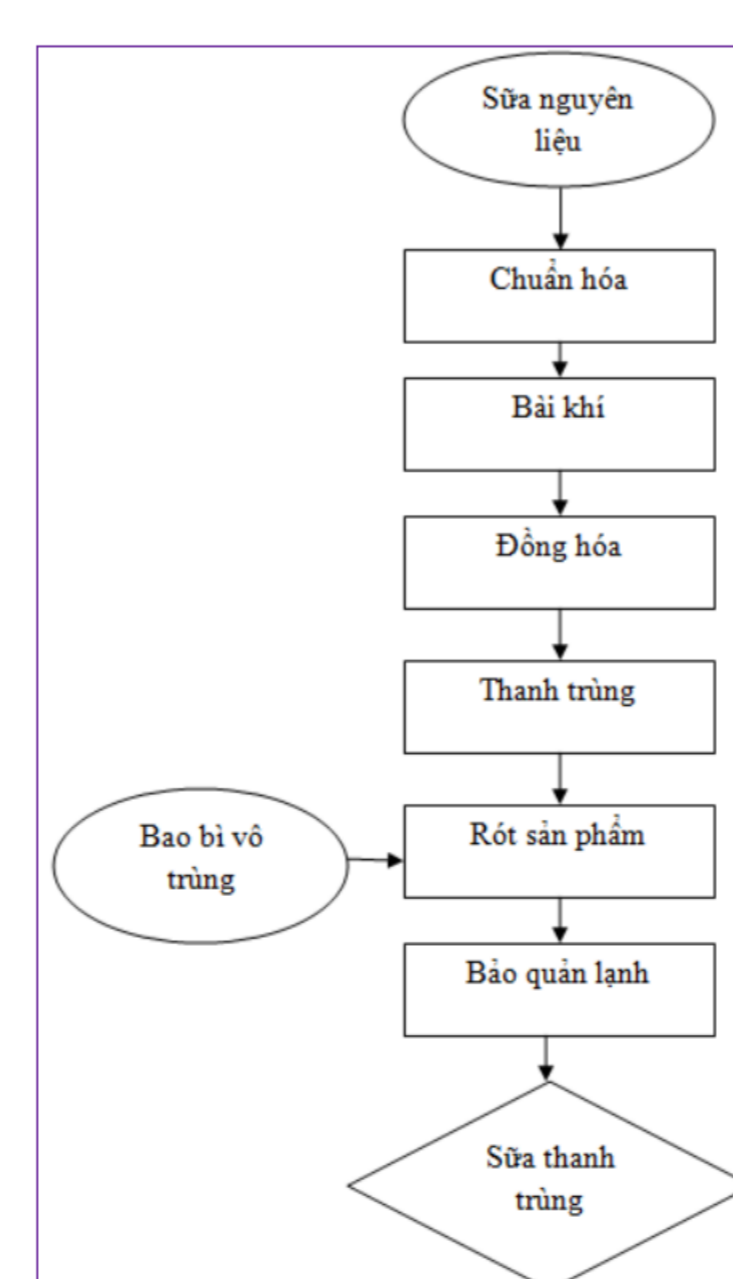
## STUDENT TASKS

- Attendance; working in group; project implementation; Project defense.
- Attendance in class: All students of the course must attend at least 75% of class.
- Preparation for project: All student of the course must prepare documents concerning the project topic, doing calculations as well as read references before class.
- Project Report and Presentation: All students of the course must participate in project presentation and defense.

## ASSESSMENT METHODS

Grade: 10

Weighting: Class Attendance: 10%; Project Outline: 20%; Project Progress: 20%; Project Report: 50%.



## LECTURERS IN CHARGE

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$$\dot{m}_{vào} = \sum_{i=1}^n \dot{m}_i \quad (1.9) \quad \dot{m}_{ra} = \sum_{e=1}^p \dot{m}_e \quad (1.10)$$

i: dòng vào  
n: số lượng dòng vào

e: dòng ra  
p: số lượng dòng ra

$$\dot{m}_{vào} - \dot{m}_{ra} = \frac{dm_{hệ}}{dt} \quad (1.11)$$