COURSE DETAIL

MATHEMATICAL CONCEPTS FOR FOOD TECHNOLOGY

Country
Netherlands

Host Institution
Wageningen University and Research Center

Program(s)
Wageningen University

UCEAP Course Level
Upper Division

UCEAP Subject Area(s)
Mathematics

UCEAP Course Number
125

UCEAP Course Suffix

UCEAP Official Title
MATHEMATICAL CONCEPTS FOR FOOD TECHNOLOGY

UCEAP Transcript Title
MATH FOR FOOD TECH

UCEAP Quarter Units
5.00

UCEAP Semester Units
3.30

Course Description

In order to create a good food, food technologists meet many challenges in various fields, such as mass and heat transfer, reactions, etc. To cope with all these aspects of food production, a food technologist should be able to translate these challenges into mathematical expressions, solve them, quantify the outcomes, and subsequently translate this into practical solutions. This course starts with the basic principles of food technology like mass, energy balances, and reaction kinetics. This theory is applied widely to practical problems in food technology during exercise sessions on various topics such as food preservation, reactor design for enzyme reactions, and sterilization of food. At the end of this course a student is expected to be able to translate practical problems in food technology to mathematical expressions; make educated guesses of unknown parameters; solve the equations and formulate a quantitative answer; evaluate this answer within a food technology context. Students work on three case studies in groups of 2 or 3.

Language(s) of Instruction
English

Host Institution Course Number
FPE20806

Host Institution Course Title
MATHEMATICAL CONCEPTS FOR FOOD TECHNOLOGY

Host Institution Campus
Wageningen University and Research Center

Host Institution Faculty
Food Technology

Host Institution Degree

Host Institution Department
Food Process Engineering

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