STABILITY AND PROPERTIES OF EMULSIFIED SYSTEMS			
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Number of CFU **4**	**Activities**	**Lectures**	18
		Laboratory	10
		Seminars	3
		Project activity	10

Objectives

This course will present the basic principles, concepts and techniques of emulsion science. The theoretical underpinnings of emulsion and suspension behavior will be described to provide a backdrop for discussions of specific emulsifying and suspending systems. Current methods to analyze the behavior of dispersed phases will be described, as well methods to measure and predict stability of the products.

Learning outcome

- Developing of different emulsion systems
- Emulsion characterization: rheological properties, particle size, physical stability
- Understanding, predicting and controlling the properties of emulsion food systems

Topics

The course will cover the following topics:

- Dispersed systems: Properties and stabilisation strategies (3 hrs)
- Fundamentals of Emulsions (3 hrs)
- Emulsion Formation (3 hrs)
- Emulsion Characteristics: Droplet size, stability, rheology (3 hrs)
- Emulsion-Based Delivery Systems: Multiple Emulsions, Multilayer Emulsions, Filled Hydrogel Particles (3 hrs)
- Surfactant-Based Delivery Systems: Micelles, Micro-Emulsions and Vesicles (3 hrs)

Laboratory activities will concern:

- Development of different emulsion systems (4hrs)
- Emulsion characterization: rheological properties, particle size, physical stability (6 hrs)

Evaluation

A final project will be prepared and discussed by each student

Recommended readings

Lecture notes and other course materials.