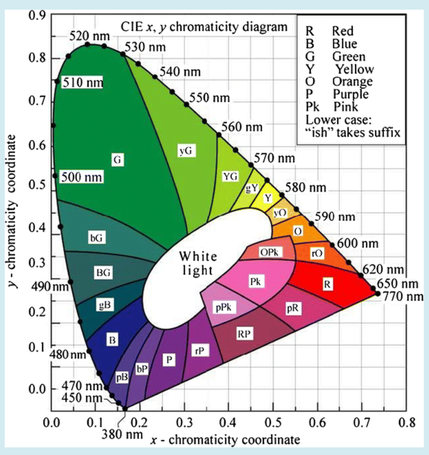
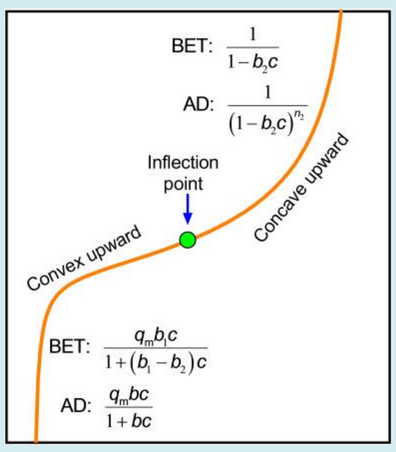
VẬT LÝ HỌC THỰC PHẨM

Physical Properties of Foods

EXPECTED LEARNING OUTCOMES OF PROGRAMME (PLOs)	
General knowledge	
PLO 1	Apply natural, social, technical and economic knowledge to solve problems in preservation, processing, testing, and research and development of food products.
Professional knowledge	
PLO 2	Formulate production procedures based on the analysis of technical factors to ensure and enhance product quality.
PLO 3	Design quality management systems for processing plants to ensure food hygiene and safety.
Soft-skills	
PLO 4	Perform work planning, demonstrate creatively critical thinking, work independently and effectively as a team leader or member.
PLO 5	Demonstrate communication skills and use specialized English in food technology.
Professional skills	
PLO 6	Operate production equipment in food manufacture factories.
PLO 7	Analyse product quality criteria in food preservation and processing procedures.
PLO 8	Design research to address technological and regulatory problems in the food industry through the evaluation of information, scientific data and information technology applications.
Attitude	
PLO 9	Work professionally, maintain professional ethics, social responsibility, and demonstrate personal physical development.
PLO 10	Demonstrate the spirit of entrepreneurship and life-long learning.





LEARNING METHODS AND TASKS OF STUDENTS

- Students read reference materials before coming to class
- The teacher gives presentations using Powerpoint, combined with a video describing the process.
- Students working in groups in class
- Do homework on the E-learning system.
- Practice and report results

Course description:

- ✓ The course provides knowledge about the physical properties of foods (rheological properties, thermal properties, electrical properties, transport properties, optical properties, water activity...).
- ✓ Supporting students with applied skills in the evaluation, design, measurement, control and quality control in product processing and preservation.
- ✓ The module also helps form students to practice the correct attitude and awareness of self-study.

CONTENT	CELOs
Chapter 1. Mechanical properties of food	CELO 1; 2; 4; 6
Chapter 2. Rheological properties of food	CELO 1; 2; 3; 4; 5; 6
Chapter 3. Thermal properties of food	CELO 1; 3; 4; 5; 6
Chapter 4. Water activity in food	CELO 1; 2; 3; 4; 5; 6
Chapter 5: Electrical properties of food	CELO 1; 2; 4; 5; 6

EXPECTED LEARNING OUTCOME OF COURSE (CELOs)		PLOs
Knowledge		
CELO 1	Demonstrate knowledge of product physical properties relevant to food handling, storage, and handling operations.	**PLO 1**
CELO 2	Choose a method to measure and calculate the physical properties of food	**PLO 4**
Professional skills		
CELO 3	Analysis of material properties, physical and mechanical properties, thermal properties, water activity, structure, food color...	**PLO 7**
CELO 4	Use food measuring instruments in the subject.	**PLO 8**
Attitude		
CELO 5	Follow the rules well during the learning process	**PLO 9**
CELO 6	Solve problems well during team work.	**PLO 10**

Course assessment	Methods	Ratio %
On-going assessment	**Attitude**	10%
	Seminar	20%
	Practice	20%
Final exam	**Written exam**	50%

TRA VINH UNIVERSITY
No. 126 Nguyen Thien Thanh Street, Ward 5, Tra Vinh City, Viet Nam
Tel: (+84).294.3855246 Fax: (+84).294.3855217
Lecturer in charge: Nguyen Duc Toan (cell phone: 0344736357; Email: ndtoan@tvu.edu.vn)
Other lecturer: Giang Kien Quoc (cell phone :0989697949; Email: gkquoc@tvu.edu.vn)