

CENG 1800 – Introduction to Food Science and Technology

School:	School of Engineering
Subject Area:	Chemical and Biological Engineering
Course Credit:	3
Instructor:	LIU Y.S. Marshal
Pre-requisite/co-requisite:	Nil

Notes:

- The syllabi provided here is for reference only and may be subject to changes and adjustments as determined by the course instructors.

CENG1800 Introduction to Food Science & Technology, 2024 (Tentative)

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Class Schedule: Lecture: Tue 4:30 - 5:50 Room G009B

Lab 1: 10:30-11:50am, Lab 2: 1:30-2:50pm, Wed, Rm 2007, CYT Bldg,

Teaching schedule:

Week	Lecture / Lab Topics	Remarks
1	Lect: no lecture Jan 31: No lab	
2	Lect: Course introduction Feb 7: Lab tour, group forming.	
3	Lect: Scientific principles (chemistry, deterioration) Feb 14: No lab during add/drop period	
4	Lect: Scientific principles Feb 21: Experiment A & B	
5	Lect: Sensory evaluation Feb 28: Experiment B & A	Quiz 1
6	Lect: Nutrition Mar 6: Experiment C & D	
7	Lect: Food Separation Mar 13: Experiment D & C	HW1
8	Lect: Fermentation Mar 20: Experiment E & F	
9	Lect: Thermal processing (Blanching, Pasteurization, Sterilization, Drying) Mar 27: Experiment F & E	Quiz 2
10	Lect: Food Preservation (Chilling, Freezing, Freeze drying) Apr 10: Experiment G & H	
11	Lect: Food safety, additives, law and regulation Apr 17: Experiment H & G	HW2
12	Lect: Functional food, future food Apr 24: Industrial visit / optional for project with experiment	HW3
13	Lect: Food waste management, advanced processing technologies May 1: Public holiday	Quiz 3
14	Group project presentation and Course wrap-up May 8: No lab	

* Industrial talk may be arranged during lecture/tutorial time.

Lab session:

- Totally 8 experiments, and every student submits two short report (max 5 pages).
- A group comprises 4 students from different departments (better from different schools and levels). Form your own group in the first two weeks, otherwise, you will be assigned.
- All reports should be submitted within one week after finishing the experiment and obtaining data.

Learning outcomes:

- 1) Identify the major nutrients and chemical components in food, and how they meet body's needs;
- 2) Understand the principle and operation of food related systems, and the physical or chemical methods used in food processing, preservation and production;
- 3) Appreciate importance of safe, sustainable and economical practices when developing and using relevant technologies;
- 4) Critically examine the contemporary issues related to food
- 5) Obtain hands-on experience on food processing through experiments;
- 6) Design a food product, process or facility by incorporating food science, technology, safety, and economical aspects;

Components of Assessment:

- Class participation and performance (5%)
- 3 Assignments (10%)
- 3 Quizzes (open book) (45%)
- Lab performance and two short reports (30%)
- Group project (Video presentation) (10%)

Reference:

- 1) Vaclavik, Vickie A. & Christian, Elizabeth W. Essentials of Food Science, 3rd edition, Springer, 2014 [E-book](#)
- 2) Shewfelt, Robert L., Boca Raton. Introducing Food Science. CRC press, 2009,
- 3) McWilliams, Margaret. Food Fundamentals, 10th edition, Pearson, 2013,
- 4) Fellows PJ. Food Processing Technology - Principles and Practice (3rd Ed.). Woodhead Publishing, 2009 [E-book](#).
- 5) Zeki Berk. Food Process Engineering and Technology, Academic Press, 2013
- 6) Coultate, TP. Food - The Chemistry of its Components (5th Ed.). 2009