Course Outline

Institut Pertanian Bogor - ACICIS' Agriculture Semester Program

Unit name	Sensory Evaluation of Foods (ITP335)
Department/ Faculty	Food Science and Technology Faculty of Agriculture Technology
Course credit (SKS)	3 (2-3) **Laboratory work delivered in Indonesian, but ACICIS students can choose to undertake only the class component which will be awarded with 2 SKS*
Offered in	Odd semester (September-January), third year subject
Pre-requisite	-
Course Coordinator	Dede R Adawiyah
Language	Indonesian English ☑ Both

Course description

This course discusses about using human senses to observe/measure food characteristics and acceptability, and its application in quality control and research. The course discusses the introduction of sensory attributes related to food products quality and acceptance; sensory mechanism; physicpsychological foundation in sensory testing; Good Sensory Practice, including requirements of sensory laboratory, panel preparation and selection, sample preparation in sensory testing; sensory testing methods; and statistic application in sensory data processing; and application of sensory evaluation in food industry. This course also covers laboratory work in order to improve student's success skill.

Learning outcomes

Upon successful completion of this course, student will be able to:

1. describe the characteristics and roles of sensory testing in food industry (C2, comprehension).
2. describe sensory attributes on food product (C2, comprehension).
3. describe the influence of physicochemical and psychological factors on sensory testing to anticipate the kind of psychological errors in sensory testing (C2, com-prehension).
4. conduct sensory tests that comply with good sensory practices and demonstrate how to organize laboratory requirement, prepare and sample serving, and panel preparation (C4, analysis).
5. use and compare different types of different test (coverall and attribute difference test) in food process control and food quality (C4, analysis).
6. apply and compare descriptive tests to identify and characterize the sensory pro-perties of foods (C4, analysis).
7. apply and compare types of affective tests (qualitative and quantitative) in food product acceptance (C4, analysis).
8. apply the principle and statistical methods to analyze sensory data and evaluate the results (C6, evaluation).

Indicative assessment

- Report (20%)
- Quiz (10%)
- Pre-lab (5%)
- Oral presentation (10%)
- Lab work participation (10%)
- Assignments (5%)
- Mid-exam (20%)
- Final exam (20%).

Contact Hours

2 hours lecture and 3 hours laboratory work per weeks for 14 weeks

Readings

- Carpenter, R.P., Lyon, D.H., and Hasdell, T.A. 2000. Guidelines for Sensory Ana-lysis in Food Product Development and Quality Control. Aspen Publishers, Inc., Maryland, USA.
- Lawless, H.T. and Heymann, H. 1999. Sensory Evaluation of Foods. Principles and Practices. Aspen Publishers,Inc., Maryland, USA.
- Meilgaard,M., Civile,G.V. and Carr,B.T. 2007. Sensory Evaluation Technique.4th ed. CRC Press, Boca Raton.
- Moskowitz, H.R., Beckley, J.H., and Resurreccion, A.V.A. 2006. Sensory and Consumer Research in Food Product Design and Development. IFT Press Series. Blackwell Pub., UK.
- O'Mahony, M. Sensory Evaluation of Foods. Marcel Dekker, Inc., NY, USA.
- Poste, L.M., Mackie, D.A., Butler, G., and Larmond, E. 1991.Laboratory Methods for Sensory Analysis of Foods. Research Branch Agriculture Canada Publication 1864/E, Canada.
- Resurreccion, A.V.A. 1998. Cosumer Sensory Testing for Product Development. Aspen Publishers,Inc., Maryland, USA.
- Stone, H. and Sidel, J. L. 2004. Sensory evaluation practices (3rd edition). Elsevier Academic Press. California, USA.

Materials (subject to change)

Week	Topics	Sub-topics
1	Course Introduction	• Scope, objective, rule and assessment tools in course • Understanding characteristics and importance of sensory evaluation in food industry
2	Statistical Principle in Sensory Testing	• Type of scale in sensory evaluation • Binomial distribution • Chi-square and Friedman • Analysis of variance
3,4	Sensory Attribute and Sensory Mechanism	• Appearance (vision) • Odor/aroma/fragrance (olfaction) • Consistency and texture (touch and tactile) • Flavor (gustation, chemical and trigeminal) • Noise (hearing)
5	Physiology and Psycho-logy Principle in Sensory Testing	• Physiological factors • Psychological factors • Sensory threshold
7,8	Good Sensory Practice	• Laboratory requirement • Preparation and sample serving • Preparation of sensory panel
9,10	Difference Test	• Overall difference test • Attribute difference test
11	Descriptive Test	• Descriptive panel • Quantitative descriptive analysis • Spectrum descriptive analysis • Time intensity analysis
12,13	Affective Test	• Quantitative methods • Qualitative methods
14	Application of Sensory Testing	• Sensory evaluation in food product development • Sensory evaluation in quality control

Laboratory Work Outline (delivered mostly in Indonesian)

Week	Topics	Sub-topics
1	Introduction to Laboratory/ Practical Class	• Arrangement of group member or team work • Rules and structure of sensory laboratory practical class • Guidelines of report writing in form of log book
2, 3	Statistical Computer Program for Sensory Data Analysis	• Binomial (excel spreadsheets) • Chi-square, Friedman test (SPSS) • Analysis of variance (SPSS) • Student t-Test (excel)
4	Sensory Attribute Perception	Sensory attribute perception
5	Sensory Threshold	Detection and Recognition threshold
6	Difference Test	• Triangle test, • Duo trio test • Two out of five test
7	Difference Test	• Simple difference test • Directional difference test
8	Difference Test	Different from control test
9	Affective Test	• Simple ranking • *Pairwise* ranking test
10	Rating Test	• Category scale • Line scale
11	Panel Selection	• Matching test (basic taste) • Descriptive or basic odor/ aroma • Acuity test (triangle test)
12	Descriptive Test	• Quantitative descriptive test • Focus group discussion
13,14	Presentation of Group Assignment	