

EXPERIMENTAL DESIGN AND STATISTICAL ANALYSIS



The following diagram summarizes the t-tes and one-way ANOVA. -More than two groups — $H_0: \mu_1 = \mu_2 = \dots \mu_t$ ANOVA One $df_1 = t - 1$ Two sample? (F-test) $df_2 = N - t$ Dependent? -Independent Equal -Unequal-Variance? Independent sample Independent One sample Paired sample sample T-test T-test T-test T-test (Pooled variance) (Approximation of d.f.) $H_0: \mu_d = 0$ $H_0: \mu = c$ $H_0: \mu_1 - \mu_2 = 0$ $H_0: \mu_1 - \mu_2 = 0$ df = n-1df = n - 1 $df = n_1 + n_2 - 2$ df = approximated



PROGRA	MME LEARNING OUTCOMES (PLOs)
	KNOWLEDGE
PLO 1	Apply natural, social, technical and economic knowledge to solve problems in preservation, processing, testing, and research and development of food products.
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.
	SKILL
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.
PLO 6	Operate production equipment in food manufacture factories.
PLO 7	Analyse product quality criteria in food preservation and processing procedures.
	Design research to address technological and regulatory problems in the

EXPECTED LEARNING OUTCOMES OF COURSE (CELOS)				
Symbol	Expected learling outcomes of the course	PLOs of program		
Knowledge				
CELO1	Synthesize knowledge of probability statistics, basic statistical math, informatics to interpret research results in the field of food technology.	PLO 1		
Skill				
CELO2	Analyse experimental data by SPSS software	PLO 6		
CELO3	Apply information technology to explain research results, discuss in groups, use foreign languages to read professional documents in the field of statistics	PLO 4, 5		
CELO4	Explain the statistical results	PLO 8		
Attitude				
CELO5	Comply with computer room rules, think critically, love your job, and be ethical in data analysis.	PLO 10		
CELO6	Demonstrate the spirit of entrepreneurship and life-long learning.	PLO 10		

PLO 8 food industry through the evaluation of information, scientific data and information technology applications.

ATTITUDE

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

- Students read the lesson first at home
- Listen to lectures, discuss
- Practice on SPSS software at the computer room





COURSE CONTENT

- Lesson 1: Introduction to data analysis statistics
- Lesson 2: Introduction to SPSS (installation, coding, data entry & processing on variables)
- Lesson 3: Statistical tests (t-test, chi-squared, anova)
- Lesson 4: Correlation regression
- Lesson 5: Optimized use of the response surface method

ASSESS AND GIVE US POINTS

- Score: 10
- Diligently, attend class
- Evaluation of the process: 50%
- Final evaluation: 50%

LECTURES IN CHARGE OF COURSE

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