

**Courses offered by B.S. in Agro-Industrial Innovation and Technology for exchange students.****1st Semester, Academic year 2024**

Code	Course name	Credit	Time
01058111	Principles of Agro-Industrial Innovation	1	F 10.30-11.30
01058151	Creative Studio for Well-being	2	Lec Th 9-10 Lab Th 10-12
01058223	Agro-Industrial Thermal Processing Technology	2	Mon 14-16
01058261	Brand Building and Management	2	W 13-15
01058311	Chemistry and Nutrition for Agro-Industrial Product <b>**must did Biochemistry before</b>	3	W 9-12
01058321	Packaging Technology and Shelf Life	2	Th 10-12
01058342	Physical and Chemical Quality Analysis in Agro-Industry	2	M 10-12
01058343	Laboratory in Physical and Chemical Quality Analysis in Agro-Industry	1	F 13-16
01058362	Service and Production System Management for Agro-Industrial Innovation	3	W 13-17
01058371	Standards and Laws for Agro-Industry	2	Tu 13.00-15.00
01355204	Project Presentation in English	3	W 9-12
01403124	Elementary Organic Chemistry	2	Thu 13-15

1 KU credit = 2 ECTS

**01058111 Principles of Agro-Industrial Innovation**

Introduction to agro-industry. Agro-Industrial supply chain. Food safety and food security. Value addition to products and service and problems solving through technology. Application of technology for sustainable development.

**01058151 Creative studio for well-being**

Exploration and access design principles. Agro-industrial innovation for well-being. Principles of design, taste, resource management, culture heritage, society, lifestyle, communication by studio practicing and collaboration in the team, based on creative issues. Field trips required.

**01058223 Agro-Industrial Thermal Processing Technology**

Thermal process technology and innovative thermal processing for agro-industry; drying, evaporation, extraction, extrusion, pasteurization, sterilization, ultra-high temperature process, frying, distillation, ohmic heating, minimal processing and hurdle technology.

**01058261 Brand Building and Management**

Introduction to principles of brand building and management. Finding customer insight. Trend analysis. Brand strategy. Brand architecture. Brand identity. Brand communication. Marketing plan and implementation. Brand experience and extension. Business model canvas.

**01058311 Chemistry and nutrition for agro-industrial product**

**Pre-requisite: Biochemistry**

Current nutritional status. Nutritional and energy requirement. Importance and nutritional value of nutrients. Food exchange. Lifespan nutrition. Nutrition and exercise. Important bioactive compounds in foods and biological activity. Nutrients and noncommunicable diseases. Changes of nutritional value upon food processing. Nutritional labeling and nutritional quality calculation. Health food and health claim.

**01058321 Packaging technology and shelf life**

Types and properties of packaging materials and packaging technology for AgroIndustrial product innovation. Selection of packaging materials and technology for AgroIndustrial products. Packaging and product development for environment conservation. Factors affecting shelf life and relationship between package and shelf life of Agro-Industrial products.

**01058342 Physical and chemical quality analysis in Agro-industry**

Definition and importance of quality. Important physical and chemical qualities of Agro-Industrial raw materials and products. Principles and techniques in the analysis of physical and chemical properties with different instrumental devices. Selection of appropriate analysis methods and instruments for specific samples.

**01058343 Laboratory in physical and chemical quality analysis in Agro-industry**

Laboratory practices physical and chemical quality analysis in agro-industry.

**01058362 Service and production system management for Agro-industrial innovation**

Design of service system based on value proposition. Service implementation test and assuring for the value proposition of service. Resource for service and production management planning: material, man, machine and approach for systematic process flow development. Application of information technology and digital enterprise resource planning system. Cost management.

**01058371 Standards and laws for Agro-industry**

Related standards and laws for agro-industrial product in Thailand and international. Labelling for agro-industrial products. Agro-industrial product legislation.

**01355204 Project Presentation in English**

Structure of oral presentation. Presentation skills including using verbal and non-verbal language, visual aids and audience engagement techniques. Practice in delivering oral presentation projects.