Food Technology

Introduction

Food Technology Program BINUS UNIVERSITY is designed not only to meet the market needs but also to produce creative, innovative and productive graduates skillful in food product innovation as well as food safety management system with IT support, providing graduates with *entrepreneurship* in food technology.

Food Technology Program concerns the application of chemical, biological, biochemical and engineering sciences to further understanding and to improve the quality, safety, nutritional, and economic value of food and beverages.

Facilities in the department include well-equipped laboratories, namely Food Chemistry and Biochemistry, Microbiology, Food Processing, Physics, Computer, and Sensory Laboratories with IT support.

Vision

A world-class Food Technology Program with IT-support for advanced food enterprise development.

Mission

The mission of Food Technology Department is to contribute to the global community through the provision of world-class education by:

1. Providing a solid educational experience through the diffusion and integration of knowledge of Food Technology, and services to food industries.
2. Educating students from a diverse background in the fundamental skills, knowledge and practice of Food Technology in order to prepare them for a position in global industries and continue for advanced degrees in Food Technology or related disciplines.
3. Providing research and professional services to streamline and optimize operations which contribute to the enhancement of the quality of life.
4. Acknowledging all talents that positively contribute to the quality of life of Indonesians and the international community.

Program Objectives

The objectives of the program are:

1. To prepare students with a solid foundation of knowledge and understanding of Food Technology theory that will be beneficial to contribute in International Food Industry
2. To provide students with the methodological, and computational skills to operate effectively and efficiency through direct involvement in problem solving required in research at Food Technology
3. To provide students with information, communication and negotiation skills, and understanding of contemporary issues into practice in marketing of Food product

Student Outcomes

After completing the study, graduates are:

1. Able to design food production process based on the application of the principles of food processing technologies effectively, efficiently, and precision in order to produce a standardized production process properly.
2. Able to design food products development that have quality, safe, nutritious and beneficial to health, and based on the principles of food technology.

3. Able to doing research on fusion food processing operations appropriate with the characteristics of food material, so as to produce safe food and quality along the food production chain and can provide added value to the food.
4. Able to analyze problems with the approach in solving the problem of food technology and the production of food products to be efficient, safe, and with a guaranteed quality.
5. Able to design the packaging of food products in order to protect and maintain the durability and quality of products, as well as safe, with an informative label for consumers appropriates with the regulations and legislation of food.
6. Able to propose innovations in the production process and or food products with a distinctively Indonesian locally based food ingredients.
7. Able to propose alternative food raw materials as a substitute for imported food.
8. Able to integrate computer applications that support the use of technology in food production processes fields.

Prospective Career of The Graduates

1. Food Technology Industry: production, quality control, R&D in various national and international Food Processing industries.
2. Food processing system designer/manager.
3. Food safety management system designer/manager.
4. Food product innovator.
5. IT system/Software designer in supporting food processing.
6. Researcher in food processing or food technology to support the Government or industry.
7. Analyst in food policy, research, and implementation to develop food industry, food safety, nutrition, food quality standards, and counseling.
8. Consultant in food processing, product formulation, food safety, sanitation.
9. Food Entrepreneur.

Curriculum

Food Technology Program is a solid foundation of knowledge and understanding to contribute in multinational food industries. Students will be equipped with the methodological and computational skills in order to operate effectively and efficiently through direct involvement in problem solving essentially required in research and industries involving Food Technology.

The curriculum of Food Technology department is specially structured to solve contemporary issues and to produce the innovation in Food Technology with IT support, as well as food safety management system.

Course Structure

Sem	Code	Course Name	SCU	Total
1	CHAR6013	Character Building: Pancasila	2	20
	LANG6027	Indonesian	2	
	FOOD6015	Introduction to Food Technology*	2	
	SCIE6045	Physics	2/1	
	SCIE6024	Biology	2/1	
	MATH6081	Mathematics	2	
	SCIE6020	Chemistry*	2/2	
	English University Courses I			
	ENGL6128	English in Focus	2	
	ENGL6130	English for Business Presentation	2	
2	CHAR6014	Character Building: Kewarganegaraan	2	20
	SCIE6023	Physical Chemistry	2/1	
	SCIE6021	Organic Chemistry	2/1	
	MATH6031	Calculus	4	
	FOOD6022	Unit Operation in Food Processing*	2	
	FOOD6012	Basic Food Biochemistry*	2/2	
	English University Courses II			
	ENGL6129	English Savvy	2	
	ENGL6131	English for Written Business Communication	2	
3	CHAR6015	Character Building: Agama	2	18
	ENTR6003	Entrepreneurship I	2	
	STAT6095	Statistics Method	2	
	SCIE6022	Analytical Chemistry	2/1	
	SCIE6026	Basic Microbiology*	2/1	
	FOOD6001	Food Chemistry	2/2	
	FOOD6002	Characteristics of Food Materials*	2	
4	FOOD6042	Principles of Food Engineering*	2/2	20
	FOOD6043	Principles of Food Processing	4	
	FOOD6007	Food Microbiology*	2	
	COMP6268	Algorithm & Programming	2/2	
	FOOD6019	Food Processing Technology**	4/2	
5	FOOD6003	Food Analysis	2/2	18
	FOOD6028	Functional Foods*	2	
	FOOD6020	Integrated Food Processing Laboratory	2	
	FOOD6021	Food Packaging and Storage Technology*	2	
	ENTR6004	Entrepreneurship II	2	
	FOOD6008	Food Microbiology Laboratory	2	
	FOOD6035	Food Safety Management System*	2	
	COMP6272	Data Structure	2	
6	FOOD6024	Research Methodology & Scientific Writing*	2	18
	FOOD6010	Food Quality Assurance**	2/2	
	FOOD6014	Nutrition and Biological Evaluation of Food Component*	2/1	
	FOOD6004	Sensory Evaluation	2/1	

Sem	Code	Course Name	SCU	Total
	Elective Courses* **			
	COMP6079	Artificial Intelligence	2	
	ISYS6277	Database Systems	2	
	FOOD6026	Innovation and Creation of Food Product	2	
	CPEN6104	Automation and Process Control in Food Processing	2	
	FOOD6023	Bioprocess Technology	2	
	FOOD6013	Metabolism of Food Components	2	
	CPEN6137	Introduction to Sensors Technology	2	
	FOOD6025	Experimental Design*	2	
	FOOD6027	Planning and Plant Design	2	
	MOBI6040	Introduction to Mobile Application	2	
	MOBI6041	Web Design	2	
7	**Enrichment Program I**		16	16
8	**Enrichment Program II**		8	16
	FOOD6030	Thesis & Seminar	8	
TOTAL CREDIT 146 SCU				

**) This course is delivered in English*

***) Enrepreneurship embedded*

****) Students choose 6 credits of elective courses*

English University Courses:

-) *For 1st Semester: English University Courses I, student with score BINUS UNIVERSITY English Proficiency Test less than 500 will take English in Focus, and student with score test greater than or equal to 500 will take English for Business Presentation*

-) *For 2nd Semester: English University Courses II, student with score BINUS UNIVERSITY English Proficiency Test less than 500 will take English Savvy, and student with score test greater than or equal to 500 will take English for Written Business Communication*

Enrichment Program I (7th Semester) & Enrichment Program II (8th Semester):

-) *Student will take one of enrichment program tracks (off campus).*

Enrichment Track Scheme

Track	Semester 7						Semester 8					
	I	RS	ENTR	CD	SA	*etc	I	RS	ENTR	CD	SA	*etc
1	v						v					
2		v					v					
3			v				v					
4				v			v					
5					v		v					
6	v							v				
7	v									v		

Notes:
I : Internship
RS : Research
ENTR : Entrepreneurship
CD : Community Development
SA : Study Abroad
*etc : Department specific needs

Notes:
Student can choose one of the available tracks

Enrichment Internship Track

Code	Course Name	SCU	Total
Enrichment Program I			16
FOOD6031	Industrial Experience	8	
FOOD6005	Food Additive, Food Law and Food Regulation in Food Industry	2	
FOOD6011	Hygiene, Sanitation and System Quality In Food Industry	2	
FOOD6032	Communication Skills in Food Industry	4	
Enrichment Program II			8
FOOD6039	Professional Experience	4	
FOOD6040	Food Analysis in Food Industry	2	
FOOD6041	Work Ethics in Food Industry	2	

Enrichment Entrepreneurship Track

Code	Course Name	SCU	Total
ENTR6295	Business Start Up	8	16
ENTR6201	Food Business Model & Validation	2	
ENTR6202	Launching New Food Venture	2	
ENTR6237	EES in New Food Business	4	

Enrichment Research Track

Code	Course Name	SCU	Total
Enrichment Program I:			16
RSCH6227	Research Experience	8	
RSCH6153	Scientific Writing on Food Research	4	
RSCH6182	Global EES in Food Technology	4	
Enrichment Program II:			8
RSCH6227	Research Experience	8	

Enrichment Community Development Track

Code	Course Name	SCU	Total
Enrichment Program I			16
CMDV6128	Community Outreach Project Implementation	8	
CMDV6071	Community Outreach Project for Food Processing	4	
CMDV6098	Employability and Entrepreneurial Skills in Food Technology	4	
Enrichment Program II			8
CMDV6128	Community Outreach Project Implementation	8	

Enrichment Study Abroad Track*

Code	Course Name	SCU	Total
GLOB6005	Elective Course for Study Abroad 1	4	16
GLOB6006	Elective Course for Study Abroad 2	4	
GLOB6007	Elective Course for Study Abroad 3	4	
GLOB6008	Elective Course for Study Abroad 4	4	
GLOB6009	Elective Course for Study Abroad 5	2	
GLOB6010	Elective Course for Study Abroad 6	2	
GLOB6011	Elective Course for Study Abroad 7	2	
GLOB6012	Elective Course for Study Abroad 8	2	
GLOB6013	Elective Course for Study Abroad 9	2	
GLOB6014	Elective Course for Study Abroad 10	2	
GLOB6015	Elective Course for Study Abroad 11	2	
GLOB6016	Elective Course for Study Abroad 12	2	

*)Transferred courses will be transferred based on credit transfer policies on study program with total of 16 credits.

The Table of Prerequisite for Food Technology (S1)

Subject		Credits	Sem	Prerequisite		Credits	Sem
FOOD6007	Food Microbiology	2	4	SCIE6026	Basic Microbiology*	2/1	3
FOOD6042	Principles of Food Engineering	2/2	4	FOOD6022	Unit Operation in Food Processing	2	2
FOOD6043	Principles of Food Processing	4	4	SCIE6023	Physical Chemistry	2/1	2
				FOOD6001	Food Chemistry*	2/2	3
FOOD6021	Food Packaging and Storage Technology	2	5	FOOD6043	Principles of Food Processing*	4	4
				FOOD6042	Principles of Food Engineering*	2/2	4

**) Food Technology Department and related lecturer will monitor the exam and grading collection to be first priority*

Student should pass all of these quality controlled courses as listed below:

No.	Code	Course Name	Minimum Grade
1.	CHAR6013	Character Building: Pancasila	B
2.	ENTR6004	Entrepreneurship II	C
3.	FOOD6012	Basic Food Biochemistry*	C
4.	FOOD6001	Food Chemistry	C
5.	FOOD6010	Food Quality Assurance	C
6.	FOOD6007	Food Microbiology*	C
7.	FOOD6019	Food Processing Technology	C
8.	FOOD6021	Food Packaging and Storage Technology*	C

*Tutorial & Multipaper