

Module Code	19349034	Course Term
Course Subject Name	Food Science	Spring
Course Tutor	Shigeki Furuya	The 6th Semester
Credit	2	Taught Day
Schools	School of Agriculture	WED-1
Taught Year	The 3rd year	
Campus	Ito campus	
Subject Area	Lecture	
Course Subject Classification	Specialized Subjects	
Course Requirements		
Course Requirement (Pre-requisite)		
Wednesday, 1st period (8:40-10:10)		

Course Outline

Students learn basic knowledge of chemistry and function of various food components to utilize them for our health. Through learning on health-supporting effect of various food components, students can obtain basic knowledge on production of health-supporting foods.

key words

Food components, health-supporting effect, functional food, mechanism

Study Objectives (General)

This course is designed to give various information on the function of food components to design and utilize health-supporting foods.

Study Objectives (Specific) The course aims to achieve the following:

- Students can gain general information on food and health.
- Student can gain information on food components with health supporting effect.
- Students can gain information on chemical characteristics of food components
- Students can learn on the health-supporting mechanism of food components.
- Students can obtain information on design of health-supporting foods.

Course Plan

- Functional food (Shigeki Furuya). Teach on health-supporting ability of foodstuffs, functional foods, health-supporting foods etc.
- Monosaccharides (Kiichiro Teruya). Teach on function of glucose, glycolysis and TCA cycle, health-supporting activity of sugar alcohols etc.
- Oligosaccharides (Kiichiro Teruya). Teach on sugar and cavity, lactose intolerance, health-supporting effect of oligosaccharides etc.
- Polysaccharides (Shigeki Furuya). Teach on digestible polysaccharides, health-supporting effect of dietary fibers etc.
- Major amino acids (Shigeki Furuya). Teach on essential amino acids, nonessential amino acids, nutritive value of proteins etc.
- Minor amino acids (Shigeki Furuya). Teach on GABA, aliine, ornithine, thyroxin, teanine, DOPA etc.
- Peptide 1 (Toshiro Matsui, Mitsuru Tanaka). Teach on health-supporting effect of peptides, blood pressure reducing peptides etc.
- Peptide 2 (Toshiro Matsui, Mitsuru Tanaka). Teach on health-supporting effect of proteins, allergy etc.
- Fatty acids (Masao Sato). Teach on health-supporting effect of saturated and unsaturated fatty acids, synthesis and metabolism of fatty acids etc.
- Glyceride lipids (Bungo Shirouchi). Teach on structure, function, digestion and absorption of glyceride lipids etc.
- Steroids (Masao Sato). Teach on cholesterol intake and metabolism in relation to our health.
- Antioxidants (Hirofumi Tachibana). Teach on oxidation, antioxidants, health-supporting effect of antioxidants etc.
- Vitamins (Hirofumi Tachibana). Teach on health-supporting effect of water-soluble and -insoluble vitamins.
- Major Minerals (Yoshinori Katakura). Teach on iron, calcium and phosphorus, sodium and potassium etc.
- Minor Minerals (Yoshinori Katakura). Teach on sulfur, zinc, copper, cobalt, iodine, manganese, selenium, fluorine etc.

Course Approaches

Textbooks

Reference Books

Study consultation (office hour)

Exams/Results Evaluation Method

- Attendance of lecture (100%).

Others