

COURSE DESCRIPTION

Fish Processing Subjects (DIPLOMA, DVT)

3500-0104 Microbiology 3 (4)

Prerequisite : 3000-1401 Science 1

Course objectives

1. To obtain knowledge and understanding about shapes, structure, growth, identification, and application of microorganism into practice at work.
2. To develop skills in microorganism culture, identification, purification and gram's staining.
3. To promote a positive attitude toward microorganisms study and to promote the value of personal responsibilities in the workplace.

Course standards

1. Understanding about the principles and process of microorganism
2. Use microscope to identify microorganism according to the principles and process.
3. Preparation culture media according to the principles and process.
4. Culture and purification of microorganism according to the principles and process.
5. Gram's staining of microorganism according to the principles and process.

Course descriptions

Definition and importance of microorganism, groups and types, shape, structure and physiology, growth and cell division; use of microscope; preparation of culture media, microorganism culture; purification of culture; grams staining; infection and drug resistance.

3501-2001 Seminar 1 (2)

Course objectives

1. To obtain understanding about the studying and searching method and conduct the vocational subject seminar.
2. To be able to conduct seminar according to the principles and method.
3. To promote positive attitude toward the study, research and develop a career with responsibilities.

Course standards

1. Understanding about the principles and method of vocational subject seminar.
2. Seminar reports implementation according to the principles and process.
3. Facilities preparation for seminar.
4. Seminar presentation and discussion.
5. Select and apply audio-visual for the presentation.

Course descriptions

Studying, searching and selecting the seminar topic; writing report; facilities preparation, presentation, discussion and using audio visual for presentation.

(Individual student prepares a seminar topic relating to vocational subject at least 1 topic)

3602-2002 Freezing**Course objectives**

1. To obtain understanding about the importance, principles and process of fishery products by freezing.
2. To be able to analyze, plan and manage the production of fishery product, by freezing according to the principles, process, quality and safety for consumption.
3. To promote positive attitude toward fish processing career with responsibilities.

Course standards

1. Understanding about the principles of fishery products by freezing.
2. Planning and preparation of equipments, tools and raw material according to the principles.
3. Process fish by using the principles of freezing.
4. Select, use and apply food additive in frozen fishery products.
5. Management of products according to principles and process of quality control, packaging, storage and selling.

Course descriptions

The importance and marketing of frozen fishery product; principles and process of refrigeration system; freezing methods; good manufacturing practice in freezing plant; frozen fishery products; changes during freezing and storage; thawing of frozen products; packaging; product deterioration; additives and food standard relating to frozen products; standard and quality of frozen fishery products.

3602-2004 Fish Processing Plant Sanitation

Course objectives

1. To obtain understanding about the principles and management of fish processing plant sanitation.
2. To be able to analyze, plan and manage the problem of fish processing plant sanitation.
3. To promote positive attitude toward fish processing career with responsibilities.

Course standards

1. Understanding about the principles and management of fish processing plant sanitation.
2. Design the equipments, tools and plant lay out according to the principles.
3. Inspection of water quality in processing plant according to the principles and process.
4. Analysis of waste water and treated waste water quality according to the principles and process.
5. Cleaning of fish processing according to the principles and process.

Course descriptions

The principle of industrial plant sanitation; equipments, tools and plant lay out; microorganism index of food sanitation; personal hygiene in food plant; cleaning and sanitizing agents water supply and quality control of water supply in plant waste water treatment and analysis of treated waste water quality; pest control and international standard concerning environment.

3602-2005 Machinery in processing plant

Course objectives

1. To obtain understanding about the principles, usage, repairing and maintenance of machinery in processing plant.
2. To be able to operate, repair and maintain the machine, electrical system and machine controlling system in processing plant.
3. To promote positive attitude toward machine operation in processing plant and to promote the value of personal responsibilities on environment.

Course standards

1. Understanding about the principles, usage, repairing and maintenance of machinery in processing plant.
2. Operate the machinery in processing plant according to the principles and method.
3. Maintenance of machinery in processing plant according to safety standard.
4. Installation of electrical system and machine controlling system in processing plant.

Course descriptions

Safety principles of using machinery; types of machinery in fish processing plant; operation , repairing and maintenance of machinery in the plant; electrical system and machine controlling system in processing plant.

3602-2102 Fish Post-harvest Technology**3 (4)****Course objectives**

1. To obtain understanding about the importance, principles and process of fish post-harvest technology.
2. To be able to plan and manage fresh fish prior to production, storage and transportation according to quality.
3. To promote positive attitude toward fish post-harvest technology with responsibilities.

Course standards

1. Understanding about the principles and process of fish post-harvest technology.
2. Handling fish after post-harvest according to the principles and process.
3. Dressing fish according to the principles and process
4. Evaluation of fresh fish quality by sensory method.

Course descriptions

The importance of fish post-harvest and handling; groups and species of aquatic animal; toxin in aquatic animal; chemical composition of aquatic animal; qualities change in fresh fish; fresh fish preservation method; dressing of fresh fish prior to processing; evaluation of fresh fish quality by sensory method; fresh fish transportation.

3602-2104 Fish Processing Plant Management**3 (4)****Course objectives**

1. To obtain understanding about the importance, principle and process of fish processing plant management.
2. To be able to plan and manage raw material, production method, plant lay out, product qualities, stock and human resources of fish processing plant according to principle and process of fish processing plant management.
3. To promote positive attitude toward fish processing plant management with responsibilities to social and environment.

Course standards

1. Understanding about the principles and process of fish processing plant management.
2. Planning of administration system in the plant including raw material, production method, product qualities and human resources.
3. Use appropriate equipments and methods for production management.

Course descriptions

Organization and management system of plant; raw material management; raw material and product transportation; production system management; quality control management; stock and human resources management according to GMP, HACCP, ISO 9000, ISO 14000 and ISO 18000; labor and plant establishment law.

3604-2001 Quality control and assurance**3 (4)****Course objectives**

1. To obtain understanding about the importance, principles and process of quality control and assurance.
2. To be able to analyze, plan and conduct the quality control and assurance work.
3. To promote positive attitude toward the quality control and assurance work and to promote the value of personal responsibilities to social and environment.

Course standards

1. Understanding about the principles and process of quality control and assurance.
2. Sampling fish and fishery products according to the principles and method.
3. Quality examination in chemical, microbiological and sensory according to the principles and process.
4. Using statistical principles in quality assurance.

Course descriptions

The quality factors; quality measurement of each quality factor by using chemical and microbiological method; sensory evaluation of product quality; food standard and law; quality assurance method; the use of statistic in quality assurance; the use of control chart; sampling plan; the use of mathematics model in the quality control assurance system.

COURSE DESCRIPTION

SURIMI AND SURIMI PROPUCTION SUBJECT

3602-2105 Waste Utilization 3 (4)

Course objectives

1. To obtain knowledge and understanding about the importance, principle and process of waste utilization.
2. To be able to utilize a waste from fish processing and added the product value by reducing the environment pollutions.
3. To promote a positive attitude toward natural resources utilization and to promote the value of personal responsibilities.

Course standards

1. Understanding about the principle of waste utilization.
2. Planning and preparing equipments and tools for waste utilization.
3. Production of waste from fish processing.

Course descriptions

The importance of waste utilization; Types and quantity of waste from fish processing and waste utilization in various methods.

Course descriptions

Principles of production system; production design; material transferring; work study and movement; investigation the appropriate method for work; work standard and improvement; evaluation of production control planning; stock system and quality control.

3604-2103 Surimi products production 4 (8)

Course objectives

1. To obtain knowledge and understanding about the importance, principle and process of surimi products production.
2. To be able to analyze, plan, manage and solve problems relating to surimi products production.
3. To promote positive attitude toward fish processing career with responsibilities.

Course standards

1. Understanding about the principles and process of surimi products production.
2. Planning and preparing equipments, tools and raw material for production according to the principles.
3. Production of surimi products according to the principles and process.
4. Surimi products quality examination according to the principles and process of raw material preparation and production.
5. Cleaning equipments and tools according to the principles and process of plant sanitation.

Course descriptions

Types of surimi products; preparation of raw material and equipments; quality control of raw material; mixing and forming raw material; processing of surimi products by steaming, frying and grilling; product freezing, packing and storage; quality control of packing process and storage.

3604-2104 Product research and development 3 (4)

Course objectives

1. To obtain knowledge and understanding about principle and methodology of product research and development.
2. To be able to analyze, plan and conduct research and development of product according to principles and process.
3. To promote positive attitude toward product research and development career with responsibilities.

Course standards

1. Understanding about the principles and methodology of product research and development.
2. Planning research and development of products.
3. Conduct research and development of products according to the principles and process in order to add quality and value of product or produce new products.

Course descriptions

The importance and advantages of product research and development; analysis of necessarily data, marketing and consumer behavior data; product management methodology and value added products; data collection, analysis, summarization and reporting.

3602-40.... Fish processing practice

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Course objectives

1. To obtain knowledge and understanding about the principle of fish processing.
2. To be able to analyze, plan, solve problem and practice fish processing in private companies/other academic sections according to the principles and process concerning safety and environmental and natural resources conservation.
3. To be able to apply this knowledge, skills and experiences into practice in a career.
4. To promote a positive attitude toward fish processing work and to promote the value of personal responsibilities in the workplace.

Course standards

1. Understanding about the principles and process of fish processing.
2. Planning and preparing of fish processing according to the principles.
3. Process fish according to fish processing principles according to the environmental and natural resources conservation.
4. Select and apply the equipments and tools for fish processing according to economy and safety.
5. Evaluation of work conduction according to work standard.

Course descriptions

Various activities promoting knowledge and skill about fish processing work in the private companies/other academic sections; work analysis; planning; conduction; problem solving and evaluation; summarization; recording, periodical work report and presentation.

(College and private companies/other academic sections should co-operate in analysis of course objective and standard in order to plan and frame the conduction including measurement and evaluation)

3602-6001 Project

4 (*)

Course objectives

1. To obtain knowledge and understanding about the process and development of the fish processing career.
2. To be able to plan, conduct, solve problem and practice fish processing according to the principles and process.
3. To be able to apply this knowledge, skills and experiences into practice in a career.
4. To promote a positive attitude toward fish processing work and to promote the value of personal responsibilities in the workplace.

Course standards

1. Understanding about the process and development of the fish processing career.
2. Planning for project implementation and conduction according to the principles and process.
3. Conducting the project according to the project plan.
4. Collecting data, analysis, conclusion and evaluation the project according to the principles and process.
5. Project presentation.

Course descriptions

Various activities promoting knowledge, skills and experiences integrity in order to develop fish processing work by using experimentation, survey, invention or systematic operation; project selection; studying and searching data and references; project writing; conducting; data collection, analysis and interpretation; summarizing, reporting and presentation of the project; the use of audio-visual in project presentation.

(Students conduct the project individually or in group and should be finish in the limited period of time, at least 160 hrs.)

วิชาปรับพื้นฐาน 1 วิชาที่เกี่ยวข้องค่ะ

COURSE DESCRIPTION

PREREQUISITE SUBJECT

3600-0005 Fish Raw Material Management

2 (4)

Course objectives

1. To obtain knowledge and understanding about the basic fish raw material management.
2. To be able to conduct fish raw material management according to the principles and process.
3. To be able to apply this knowledge, skills and experiences into practice in a career.
4. To promote good work habits with patience, cleanness, carefulness, economy, safety and responsibilities.

Course standards

1. Understanding about principle and process of basic fish raw material management.
2. Handling different fresh fish species according to the principles and process.
3. Evaluation of different fresh fish species quality according to the principles.
4. Preparation prior to raw material management according to market demand.
5. Management of different fish raw material for production.
6. Transportation of fresh fish for sale.
7. Make cost and income account of fish raw material.

Course descriptions

Valuable fish species; chemical compositions effecting on fresh fish quality changes; handling of fresh fish; fresh fish quality evaluation; fish preparation for production and fresh fish transportation.