



**THE 2002 CURRICULUM FOR CERTIFICATE  
OF VOCATIONAL EDUCATION  
(Revision Edition 2003)**

**AGRICULTURE**

**Vocational Education Standards and Qualifications Bureau**

**Vocational Education Commission**

**Ministry of Education**

**The 2002 Curriculum for Certificate of Vocational Education  
(Revision Edition 2003)**

**Plant Science**

**Animal Science**

**Farm Mechanics**

**Agro-Industrial**

**General Agriculture**

## **Preface**

The 2002 Curriculum for Certificate of Vocational Education (Revision Edition 2003), Agriculture, has been developed to the 1992 National Education Plan, progressive technology in globalization, developed for producing and developing skilled manpower to the labour market and also the situation of the economy and society at all levels: community, local and national. The curriculum provides a chance for students to choose any subjects based on their needs, interests and potential. The students will be able to transfer and assess their knowledge and experience gained from academic resources and work places. Government and private sectors can both take part in developing curriculum and managing education.

The curriculum was developed by a committee (refer to appendix) which willingly donated their wisdom, knowledge, experience and time. The Ministry of Education would like to take this opportunity to thank the committee very much indeed for this work.

Ministry of Education  
2005

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## **2002 Curriculum for Certificate of Vocational Education (Revised Edition 2003)**

### ***Rational***

1. This skilled worker vocational certificate curriculum (after lower secondary level) aim to develop technical skills work ethics, personality and attitudes relevant to the needs of both local and national labor markets and economic and social conditions.
2. This curriculum provides a range of subjects and ways of learning for students to choose based on their potential and opportunities. Thus, students are able to transfer and accumulate credits and to utilize their prior knowledge and experience gained from the workplace and other relevant sources.
3. This curriculum promotes the co-operation in education management between government and private organizations.
4. This curriculum provides opportunities for colleges and local need communities to participate in its development which is relevant to their local needs and conditions.

## **2002 Curriculum for Certificate of Vocational Education (Revised Edition 2003)**

### *Aims*

1. To gain knowledge, skills and experience, and to efficiently make use of them in their careers, to be able to choose their ways of living as well as their careers in order to develop their local communities and country.
2. To obtain wisdom, to gain managing skills, to be creative and to be interested in learning in order to develop their life quality and careers, to be able to create jobs and developed them.
3. To gain a positive attitude towards and to have confidence pride in their careers, to love their jobs and their workplaces, to be able to work in groups with respect to one's and others rights and duties.
4. To create good behavior in working and living with others, to be responsible to families, organizations, local communities and the country, offer their participation in society, to gain understanding about local arts, culture and local wisdom, and to examine their value, to make use of and conserve natural resources and to create good environment.
5. To promote personality, human relations, morals, ethics, self-discipline, and good health appropriate their careers.
6. To be aware of and to provide co-operation in solving nation and world economic, social problems, to be a patriotic and to realize that they are Thai citizens, to offer themselves to public, to promote the security of nation, monarch, and democratic government with monarch.

# **Instructions**

## **2002 Curriculum for Certificate of Vocational Education**

### **1. Teaching and Learning**

- 1.1 According to the curriculum, the students are able to enroll in any means of learning determined by the college, and the results of all means can be accumulated evaluated and transferred, and their prior knowledge and experience can be recognized.
- 1.2 This curriculum learning by doing and can transferred to study in the factory or workplace at least one semester.

### **2. Attendance**

- 2.1 This curriculum is learning by doing and can transferred to study in the factory and workplace at least one semester.
- 2.2 Incase of classroom study, the attending time is allocated into 5 days a week, 60 minutes a period.

### **3. Credits**

The students are required to gain at not less than 102 credits to complete the courses. The credit criteria are as follow:

- 3.1 One theoretical period per week, not less than 20 periods per semester, accounts for 1 credit.
- 3.2 Two to three practical periods per week, 40-60 periods per semester, accounts for 1 credit.
- 3.3 Vocational training in the factory or workplace takes not less than 40 hours, accounts for 1 credit.
- 3.4 Vocational training under Dual Vocational training system (DVT) takes not less than 40 hours accounts for 1 credit.
- 3.5 Vocational project is based on the curriculum details.

## 4. Curriculum structure

Course of this curriculum are divided into 3 subject categories and activities :

- 4.1 General Courses
  - 4.1.1 Basic General Courses : is the basic course for living.
  - 4.1.2 Vocational-based General Courses : is related to general basic subjects.
- 4.2 Vocational Courses
  - 4.2.1 Basic Vocational Courses
  - 4.2.2 Core Vocational Courses
  - 4.2.3 Specialized Vocational Courses
  - 4.2.4 Project
- 4.3 Free elective Courses
- 4.4 On the Job Training
- 4.5 Extra Curricular Activities

Numbers of credits and lists of subjects are based on the curriculum structure of each major and area of study.

## 5. Project or Vocational Project

- 5.1 All students are required to enroll in the sixth semester, at least 160 hours, account for 4 credits.
- 5.2 The assessment and grading system of these courses will be the same as for other courses.

## 6. Work Experience

- 6.1 All students are required to enroll vocational subjects in work places at least 1 semester.
- 6.2 The assessment and grading system will be the same as for other course.



## **7. Acceptance**

The students' qualifications are based on the education evaluation regulations of the 2002 Curriculum for certificate of Vocational Education (A.D. 2003) as set by the Ministry of Education.

## **8. Assessment**

The assessment based on the assessment regulations of the 2002 Curriculum for Certificate of Vocational Education (A.D. 2003) as set by the Ministry of Education.

## **9. Extra Curricular Activities**

College have to provide the activities to promote attitude, ethics self-discipline, recreation and promote work habits with group system for usefull in the social, conservative cultural with planning, doing, evaluate, and improve their work.

## **10. Graduation**

To complete the program the students have to :

- 10.1 Passed the course in the three subjects categories as prescribed in the curriculum of each field of study.
- 10.2 Gained the number of credits accumulated as stated in the curriculum structure.
- 10.3 Gained a grade point average (GPA) of not less than 2.00.
- 10.4 Attend activities and pass their evaluation every semester.
- 10.5 Passed standard of vocational subjects.

## **11. Revision and Conversion of Curriculum**

- 11.1 The Secretary General of the Vocational Education Commission is authorized to revise, supplement, convert to abrogate any subjects and their descriptions within 2002 Curriculum for certificate of Vocational Education.
- 11.2 The director of the college has an authority to revise, supplement, change and abrogate any subjects and their contents of 2002 Curriculum for Certificate of Vocational Education and report to the Secretary General of Vocational Education Commission.

# Code of Courses

## 2002 Curriculum for Certificate of Vocational Education (Revised Edition 2003)

1	2	3	4	-	5	6	7	8	
									Step of Courses 01 - 99
									Group Courses
					<b>PROGRAM/ JOIN COURSES</b>				
2	0	0	0		<b>Join Study (General Courses )</b>				<b>11</b> Thai Language <b>12</b> English and another Language <b>13</b> Social Science <b>14</b> Science <b>15</b> Mathematics <b>16</b> Health and Physical Education 01-19 Basic General Courses 20-99 Vocational-based General Courses
2	0	0	1		<b>Join Courses (Basic Vocational Courses )</b>				<b>00</b> Join Courses (Basic Vocational Courses )
2	0	0	2		<b>Join Courses (Extra Curricular Activities )</b>				<b>00</b> join Curriculum Activities
2	5	0	0		<b>Join Courses (type of courses)</b>				<b>10</b> Basic Vocational Courses (Join Area of Study)
2	5	X	X		<b>PROGRAM</b> .....				<b>10</b> Core Vocational Courses
					<b>Area of Study : Agriculture</b>				<b>2X - 3X</b> Specialized Vocational Courses
					01 Program ; <b>Agricultural Science</b>				21 Plant Science    22 Animal Science 23 Agro-Industry    24 Farm Mechanic 25 General Agricultural
									<b>4X</b> Bateralness Courses
									<b>50</b> Porject
					<b>Area of Study</b>				
					<b>0</b> Join Courses		<b>4</b> Home Economics		
					<b>1</b> Industry		<b>5</b> Agriculture		
					<b>2</b> Business Administration		<b>6</b> Fishery		
					<b>3</b> Arts and Crafts		<b>7</b> Tourism Industry		
					<b>Curriculum</b>				
					<b>2</b> Curriculum for Certificate of Vocational Education				

# Agricultural Science



# **Program Structure**

**2002 Curriculum for Certificate of Vocational Education  
(Revised Edition 2003)**

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**Area of Study: Agriculture**

**Program ; Agricultural Science**

## **2002 Curriculum for Certificate of Vocational Education (Revised Edition 2003)**

### **Area of Study : Agriculture**

### **Program ; Agricultural Science**

#### **Objectives**

1. To obtain knowledge and skills of languages, sociology, science, mathematics, health education, and physical education and be able to apply their confidently in to practice in their career.
2. To gain knowledge of principles and processes of basic agricultural work.
3. To gain knowledge and skills of the jobs related to agricultural extension and development to deep pace with social economic and technological advancement.
4. To obtain knowledge and skills of the production and services in plant science, animal science, agro-industry and /or farm mechanics according to their business cycle based on the principles and processes with regarding to energy and environment conservation.
5. To be able to choose, use and apply technology in agricultural work.
6. To practice agricultural work at workplaces and run their own business, applying their basic knowledge and skills for higher education.
7. To have positive attitudes and good habits in agricultural career, creativity, responsibility, honesty, saving, patience, and discipline for self-developing and team working.

## Vocational Education Standards of the Program

1. Communicate in Thai and English in their daily life and careers.
2. Be have according to their religion, culture and citizen rights.
3. Solve vocational problems by using mathematic and scientific principles and processes
4. Develop personalities and hygiene by using the principles and processes of health education and physical education.
5. Practice basic agricultural work based on the principles and processes.
6. Select, use and maintain agricultural vehicles, machines and equipment based on the principles and processes with regard to saving and safely.
7. Apply computer technology, business management processed and quality administration principles for developing and promoting agricultural careers.

### Plant Science Specialization

8. Plan, prepare, culture, nature and manage maintenance and post –harvest management vegetable / flowering-plant / ornamental plants / fruit , perennial plant / field crop / herb / mushroom and/or another plants based on the principles and processes covering business cycles.
9. Conserve natural resources, environment and **plant science jobs** ecosystems.
10. Choose, use and / or apply technology in **plant science jobs** based on the principles and processes.

### Animal Science Specialization

8. Plan, prepare, take care and manage poultry / pig / cow/ fishery products and/or another animals based on the principles and processes covering business cycles.
9. Conserve natural resources, environment and **animal science jobs** ecosystems.
10. Choose, use and / or apply technology in **animal science jobs** based on the principles and processes.

### Agro – Industrial Specialization

8. Plan, prepare, work and manage post produce, plant product / animal product /milk product / fishery product / mushroom product /herb product /grain product and/or another agriculture product based on the principles and processes covering business cycles.
9. Conserve natural resources, environment and **agro-industrial jobs** ecosystems.
10. Choose, use and / or apply technology in **agro-industrial jobs** based on the principles and processes.

**Farm Mechanics Specialization**

8. Select / use maintain, service, construct and basic repair in small engines/farm machinery/farm electricity / welding / surveying / power sources and transmission / irrigation and / or another agriculture farm mechanics jobs based on the principles and processes.
9. Conserve natural resources, environment and **agriculture farm mechanics jobs** ecosystems.
10. Choose, use and / or apply technology in **agriculture farm mechanics jobs** based on the principles and processes.

**General Agriculture Specialization**

8. Plan, prepare, work and manage produce and / or agricultural service based on the principles and processes covering business cycles.
9. Conserve natural resources, environment and **agricultural jobs** ecosystems.
10. Choose, use and / or apply technology in **agricultural jobs** based on the principles and processes.

## Structure

### 2002 Curriculum for Certificate of Vocational Education (Revised Edition 2003)

#### Program ; Agriculture

For the fulfillment of the 2002 Curriculum for Certificate of Vocational Education (Revised Edition 2003), Agriculture program, graduates. Have to take courses and participate in additional activities with not less than 102 credits based on the following :

<b>1. General Courses</b> (not less than)		26	credits
1.1 Basic General Courses	18	credits	
1.2 Vocational-based General Courses (not less than)	8	credits	
<b>2. Vocational Courses</b> (not less than)		66	credits
2.1 Basic Vocational Courses	14	credits	
2.2 Core Vocational Courses (not less than)	18	credits	
2.3 Specialized Vocational Courses (not less than)	30	credits	
2.4 Project	4	credits	
<b>3. Free Elective Courses</b> (not less than)		10	credits
<b>4. On the job Training</b> (not less than 1 Semester)			
<b>5. Extra curricular Activities</b> (not less than 200 Hours)			
<b>Total (not less than)</b>		<b>102</b>	<b>credits</b>



## 1. General Courses (not less than) 26 credits

### 1.1 Basic General Courses (not less than) 18 credits

#### 1.1.1 Language (Elective) (not less than) 8 credits

##### (1) Thai Language (Elective) (not less than) 4 credits

Code	Course Title	Cr	(Hr)
2000-1101	Thai for the Workplace 1	2	(2)
2000-11__	Course in Thai Language Group	2	(2)

##### (2) English and another Language (Elective) (4 credits)

Code	Course Title	Cr	(Hr)
2000-1201	English for Communication 1	2	(2)
2000-1202	English for Communication 2	2	(2)

#### 1.1.2 Social Science (Elective) (not less than) 4 credits

Students must take courses of 2000-1301 for 2 credits and choose another courses not less than 2 credits, total not less than 4 credits.

Code	Course Title	Cr	(Hr)
2000-1301	The Way of Thai Ethics	2	(2)
2000-13__	Course in Social Science group	2	(2)

#### 1.1.3 Science and Mathematics (Elective) (4 credits)

##### (1) Science (Elective) 2 credits

Code	Course Title	Cr	(Hr)
2000-1401	Basic Sciences	2	(3)

##### (2) Mathematics (Elective) 2 credits

Code	Course Title	Cr	(Hr)
2000-1501	Applied Mathematics 1	2	(2)

**1.1.4 Health and Physical Education (Elective)** (not less than) 2 credits  
select from courses below :

<b>Code</b>	<b>Course Title</b>	<b>Cr</b>	<b>(Hr)</b>
2000-16__	Course in Physical Education Group	1	(2)
2000-16__	Course in Health Education Group	1	(1)
2000-16__	Course in Health and Physical Education Integration Group	2	(3)

**1.2 Vocational-based General Courses** (not less than) 8 credits

**1.2.1 Language (Elective)** (not less than) 4 credits

**(1) English and another Language (Elective)** (not less than) 4 credits  
select from courses below :

<b>Code</b>	<b>Course Title</b>	<b>Cr</b>	<b>(Hr)</b>
2000-1220	English for Communication in the Workplace	1	(2)
2000-1221	English Conversation 1	1	(2)
2000-1222	English Conversation 2	1	(2)
2000-1228	English for Agriculture	1	(2)
2000-1230	English for Agricultural Technology	1	(2)
2000-1232	Supplementary English	1	(2)
2000-1233	Internet English	1	(2)
2000-1234	English Project Work	1	(2)
2000-1235	English for the Workplace	1	(2)
2000-1236	Independent Study in English	1	(2)
2000-1237	English Terminology	1	(2)

**1.2.2 Science and Mathematics (Elective)** (not less than) 4 credits

**(1) Science (Elective)** (not less than) 2 credits select from courses  
below :

<b>Code</b>	<b>Course Title</b>	<b>Cr</b>	<b>(Hr)</b>
2000-1422	Agricultural Science	2	(3)
2000-14__	Course in Science Group	2	(3)

**(2) Mathematics (Elective)** (not less than) 2 credits select from courses below :

Code	Course Title	Cr	(Hr)
3000-1524	Applied Mathematics 6	2	(2)
3000-15__	Course in mathematic (Elective)	2	(2)

**2. Vocational Courses (not less than) 66 credits**

**2.1 Basic Vocational Courses (14 credits)**

Code	Course Title	Cr	(Hr)
2001-0001	Computer at Work	2	(3)
2001-0002	Basic Business Management	2	(3)
2001-0003	Quality and Productivity Management	2	(3)
2001-0004	Introduction to Environmental Management	2	(3)
2500-1001	Future Farmer Leadership Development	2	(2)
2500-1002	Agricultural Practice	2	(4)
2500-1003	Agricultural Vocational Skill	2	(4)

**2.2 Core Vocational Courses (18 credits)**

Code	Course Title	Cr	(Hr)
2501-1001	Farm Tractor and Machinery Operation	3	(4)
2501-1002	Vehicles Driving	3	(4)
2501-1003	Computer Application for Work	2	(3)
2501-1004	Principles of Plant Science	2	(3)
2501-1005	Principles of Animal Husbandry	2	(3)
2501-1006	Introduction to Agro-Industry	2	(2)
2501-1007	Basic Farm Workshop	2	(4)
2600-1001	General Fisheries	2	(2)

**2.3 Specialized Vocational Courses (not less than) 30 credits**

Students must take at least 30 credits from specialized vocational courses, from the production / service not less than 15 credits. Course of project according to the course of production / service of choose not less than 6 credits, and choose another course in order to complete the credit requirement.

### 2.3.1 Plant Science Specialization

- **Course of production in plant science**

Code	Course Title	Cr	(Hr)
2501-2101	Vegetable Crop Production	3	(6)
2501-2102	Field Crop Production	3	(6)
2501-2103	Fruit Crop and Tree Production	3	(6)
2501-2104	Flower and Ornamental Plant Production	3	(6)
2501-2105	Mushroom Production	3	(6)
2501-2106	Herbal Plant Production	3	(6)
2501-2107	Mulberry Cultivation and Sericulture	3	(6)

- **Course of production project in plant science**

Code	Course Title	Cr	(Hr)
2501-2150	Vegetable Crop Production Project	2	(4)
2501-2151	Flower Production Project	2	(4)
2501-2152	Ornamental Plant Production Project	2	(4)
2501-2153	Mushroom and Spawn Production Project	2	(4)
2501-2154	Field Crop Production Project	2	(4)
2501-2155	Fruit Crop and Tree Production Project	2	(4)
2501-2156	Breed Plant Project	2	(4)
2501-2157	Rice Production Project	2	(4)
2501-2158	Herb Production Project	2	(4)
2501-2159	Mulberry Cultivation and Sericulture Project	2	(4)
2501-2160 to 2501-2199	Another Production Project (Plant Science) based on local need.	2	(4)

- **Introduce course add in plant science specialization**

Code	Course Title	Cr	(Hr)
2501-2108	Landscape Gardening and Maintenance	3	(6)
2501-2109	Biological Substance Production for Agriculture	3	(6)
2501-2110 to 2501-2149	Another Production Project (Plant Science) based on local need.	*	(*)
2501-4101	Plant Science Work 1	*	(*)
2501-4102	Plant Science Work 2	*	(*)
2501-4103	Plant Science Work 3	*	(*)
2501-4104	Plant Science Work 4	*	(*)
2501-4105	Plant Science Work 5	*	(*)
2501-4106	Plant Science Work 6	*	(*)
2501-41...	Plant Science Work ...	*	(*)

### 2.3.2 Animal Science Specialization

- **Course of production in animal science**

Code	Course Title	Cr	(Hr)
2501-2201	Poultry Production	3	(6)
2501-2202	Swine Production	3	(6)
2501-2203	Cattle Production	3	(6)
2501-2204	Fish Breeding	3	(6)
2501-2205	Fish Culture	3	(6)
2501-2206	Introduction and Hatchery Management	3	(6)

- **Course of production project in animal science**

Code	Course Title	Cr	(Hr)
2501-2250	Broiler Rasing Project	2	(4)
2501-2251	Layer Rasing Project	2	(4)
2501-2252	Native Chicken Rasing Project	2	(4)
2501-2253	Duck Rasing Project	2	(4)
2501-2254	Quail Rasing Project	2	(4)
2501-2255	Swine Rasing Project	2	(4)
2501-2256	Fattened Pig Rasing Project	2	(4)
2501-2257	Beef Cattle Rasing Project	2	(4)
2501-2258	Dairy Cattle Rasing Project	2	(4)
2501-2259	Fish Breeding Project	2	(4)
2501-2260	Fish Rasing Project	2	(4)
2501-2161 to 2501-2299	Another Production Project (Animal Science) based on local need.	2	(4)

- **Introduce course add in animal science specialization**

Code	Course Title	Cr	(Hr)
2501-2207	Ostrich Rasing	2	(3)
2501-2208	Rabbit Rasing	2	(3)
2501-2209	Goat and Sheep Rasing	2	(3)
2501-2210	Deer Rasing	2	(3)
2501-2211	Buffalo Rasing	2	(3)
2501-2212	Roughage Production	2	(3)
2501-2213	Animal Feed Production	2	(3)
2501-2114 to 2501-2249	Another Production Project (Animal Science) based on local need.	*	(*)

<b>Code</b>	<b>Course Title</b>	<b>Cr</b>	<b>(Hr)</b>
2501-4201	Animal Science Work 1	*	(*)
2501-4202	Animal Science Work 2	*	(*)
2501-4203	Animal Science Work 3	*	(*)
2501-4204	Animal Science Work 4	*	(*)
2501-4205	Animal Science Work 5	*	(*)
2501-4206	Animal Science Work 6	*	(*)
2501-42...	Animal Science Work ...	*	(*)

### 2.3.3 Agro-Industry Specialization

- Course of production in agro-industry**

<b>Code</b>	<b>Course Title</b>	<b>Cr</b>	<b>(Hr)</b>
2501-2301	Plant Products	3	(6)
2501-2302	Animal Products	3	(6)
2501-2303	Dairy Products	3	(6)
2501-2304	Fishery Products	3	(6)
2501-2305	Mushroom Products	3	(6)
2501-2306	Herb Products	3	(6)
2501-2307	Cereal Products	3	(6)

- Course of production / transmute project in agro-industry**

<b>Code</b>	<b>Course Title</b>	<b>Cr</b>	<b>(Hr)</b>
2501-2350 to 2501-2399	Another project of production / transmute in agro-industry based on local need.	2	(4)

- Introduce course add in agro-industry specialization**

<b>Code</b>	<b>Course Title</b>	<b>Cr</b>	<b>(Hr)</b>
2501-2308	Product Management for Processing	2	(3)
2501-2309	Food additive	2	(3)
2501-2310	Butchering	2	(4)
2501-2311 to 2501-2349	Another Production Project (Agro-industry) based on local need.	*	(*)

<b>Code</b>	<b>Course Title</b>	<b>Cr</b>	<b>(Hr)</b>
2501-4301	Agro-industry Work 1	*	(*)
2501-4302	Agro-industry Work 2	*	(*)
2501-4303	Agro-industry Work 3	*	(*)
2501-4304	Agro-industry Work 4	*	(*)
2501-4305	Agro-industry Work 5	*	(*)
2501-4306	Agro-industry Work 6	*	(*)
2501-43...	Agro-industry Work ...	*	(*)

### **2.3.4 Farm Mechanic Specialization**

- Course of production / service in farm mechanic**

<b>Code</b>	<b>Course Title</b>	<b>Cr</b>	<b>(Hr)</b>
2501-2401	Small Engines	3	(6)
2501-2402	Farm Machinery	3	(6)
2501-2403	Farm Electricity	3	(6)
2501-2404	Welding	3	(6)
2501-2405	Introduction to Surveying	3	(6)
2501-2406	Introduction to Construction	3	(6)
2501-2407	Power Sources and Transmission	3	(6)
2501-2408	Irrigation	3	(6)

- Course of production/ service project in farm mechanic**

<b>Code</b>	<b>Course Title</b>	<b>Cr</b>	<b>(Hr)</b>
2501-2450 to 2501-2499	Production / Service Project (Farm Mechanic field)	2	(4)

- Introduce course add in farm mechanic specialization**

<b>Code</b>	<b>Course Title</b>	<b>Cr</b>	<b>(Hr)</b>
2501-2409	Farm Machinery for Rice Production	3	(4)
2501-2410	Two-Wheel Tractors	3	(4)
2501-2411	Water Pump	3	(4)
2501-2412	Water Supply System for Agriculture Construction	3	(4)
2501-2413	Soil Management	2	(3)
2501-2414	Electric Machines in Farm	3	(4)
2501-2415	Introduction to Industrial Machines	3	(4)
2501-2416	Farm Equipment Production and Reparation	3	(4)

<b>Code</b>	<b>Course Title</b>	<b>Cr</b>	<b>(Hr)</b>
2501-2417 to 2501-2499	Course in another Farm Mechanic field based on local need.	*	(*)
2501-4401	Farm mechanic Work 1	*	(*)
2501-4402	Farm mechanic Work 2	*	(*)
2501-4403	Farm mechanic Work 3	*	(*)
2501-4404	Farm mechanic Work 4	*	(*)
2501-4405	Farm mechanic Work 5	*	(*)
2501-4406	Farm mechanic Work 6	*	(*)
2501-44...	Farm mechanic Work ...	*	(*)

### **2.3.5 General Agricultural Specialization**

Students can choose courses from any area of study : Agriculture, program ; Agricultural Science below :

- Introduce course add in general agricultural specialization**

<b>Code</b>	<b>Course Title</b>	<b>Cr</b>	<b>(Hr)</b>
2501-2501	Small Engines	3	(6)
2501-2502	Farm Machinery	2	(3)
2501-2503 to 2501-2599	Another agricultural courses based on local need.	*	(*)
2501-2550 to 2501-2599	Production project and service in general agricultural area based on local need.	2	(4)
2501-4501	General Agricultural Work 1	*	(*)
2501-4502	General Agricultural Work 2	*	(*)
2501-4503	General Agricultural Work 3	*	(*)
2501-4504	General Agricultural Work 4	*	(*)
2501-4505	General Agricultural Work 5	*	(*)
2501-4506	General Agricultural Work 6	*	(*)
2501-45...	General Agricultural Work ...	*	(*)

For the Dual System (apprenticeships), the college and the employer together analyze the course objectives and course standards, to produce an appropriate work, planning for practice and evaluating not less than 40 hours is equivalent to 1 credit.



**2.4 Project (4 credits)**

<b>Code</b>	<b>Course Title</b>	<b>Cr</b>	<b>(Hr)</b>
2501-5001	Project	4	(*)

**3. Free Elective Courses (not less than) 10 credits**

Students can choose courses from any area of study, according to their aptitude and interests, from the list provided in the 2002 Vocational Certificate Curriculum (Revision Edition 2003).

**4. On The Job Training (not less than 1 Semester)**

For on the job training, the college selects Vocational Courses which are undertaken at the workplace, for at least 1 semester, totaling not less than 40 hours equivalent to 1 credit.

**5. Extra curricular Activities (200 Hours)**

The college arranges extra curricular activities every semester, totaling not less than 200 hours for the entire program.

<b>Code</b>	<b>Course Title</b>	<b>Cr</b>	<b>(Hr)</b>
2000-2001	activities ...	-	(2)
2000-2002	activities ...	-	(2)
2000-2003	activities ...	-	(2)
2000-2004	activities ...	-	(2)
2000-2005	activities ...	-	(2)
2000-2006	activities ...	-	(2)
2000-2007 to 2002-0012	another activities ...	-	(2)

# **Course Description**

## **Vocational Courses**

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**2002 Curriculum for Certificate of Vocational Education  
(Revised Edition 2003)  
Area of Study: Agriculture**

# Course Description

## Vocational Courses : Basic Vocational Courses

### **2001-0001 Computer at Work 2 (3)**

#### **Course Objectives**

1. To understand the principles of using information technology at work, using office program, using internet and e-mail.
2. To be able to use computer and information at work, install operating software program create document, table making and presentation, search data by internet and send-receive e-mail.
3. To have morality and responsibility to use computer with information system, good habit in systematically to work, patient, neatly, carefulness and safety.

#### **Course Standard**

1. Install computer by manual.
2. Create document for career by word processing program.
3. Create table sheets for career by table program.
4. Create presentation slides by presenting program.
5. Search data by internet and send-receive E-mail.

#### **Course Description**

Study and operate about computer and basic vocational information system, install computer, equipment and practice system, using word processing program in create vocational documents concentrate in typing fluently and correcting, using table program for career in calculating such as capitals, goods pricing etc. using presenting program concentrate in graph and table, animation, using internet to serch data for career and send-receive e-mail, using computer with information system based on morality and responsibility.

### **2001-0002 Basic Business Management 2 (3)**

#### **Course Objectives**

1. To understand principle of basic business management, processes of procedure, business document, accounting, marketing and market plan, sale and sale plan, small business.
2. To be able to make business document according to type of business, record accounts according to general accounting standards, proceed marketing according to marketing plan, proceed sale according to sale plan and proceed small business by their own job knowledges.
3. To promote a positive attitude toward proceeding small business in their own vocational field.

**Course Standard**

1. Create business document according to type of work.
2. Record account according to general accounting standard.
3. Proceed marketing according to marketing plan.
4. Proceed sale according to sale plan.
5. Proceed small business.

**Course Description**

Study and practice basic business management, type and important of enterprises, principle of business management, writing business document, account making, marketing and market plan, sale and sale plan, principle of proceeding small business.

**2001-0003 Quality and Productivity Management****2 (3)****Course Objectives**

1. To understand principle of quality management, principle of PDCA, solve problem processes and equipment in activity management, ISO 9000 : 2000 rules and document in productivity.
2. To be able to proceed quality groups, activities about ISO 9000 : 2000 and management in productivity.
3. To have working habit in systematic and realize in quality.

**Course Standard**

1. Proceed quality group activity.
2. Proceed quality management activity in organization.
3. Proceed ISO 9001.
4. Proceed productivity activities in organization.

**Course Description**

Study and practice in quality management activity, meaning and important of quality, PDCA methodology, manage quality group by using solve problem processes and equipment in activity, progress report of quality group activity, quality management principle and proceed activities such as : giving importance to customers, relation with sender, leadership, personal cooperation, procedure administration and system, continuous improvement and decision making ect., quality management system ISO 9000:2000, rules and document, principle of productivity, productivity in organization by constant factors and reduced productivity factors.

## **2001-0004 Introduction to Environmental Management 2 (3)**

### **Course Objectives**

1. To understand the relation of environment and living things, ecology and technology, environment problem, solution technique in environment quality standard, standard system in environment management 14000.
2. To be able to survey ecology information and technology related to environment in community, solution, proceed activities about environment quality in community, proceed activities to manage environment in ISO 14001 organization.
3. To have good work habits with patience and safety, economize and realize to importance of environment.

### **Course Standard**

1. Survey ecology information and technology related to environment in community.
2. Set solution to environment problem solving in community according to environmental quality standard.
3. Proceed activities for quality of environment in community.
4. Proceed activities for standard of environment ISO 14000.

### **Course Description**

Study and practice about basic environment management in organization and community, role and importance of environment, relation with living things, ecology and technology to developing country, environment problem, pollution location, impacts and technique in solving pollution of water, air, sound, shaking, scenery, poisonous and waste, environment conservation, quality standard of environment, standard system of environment management ISO 14000.

## **2500-1001 Future Farmer Leadership Development 2 (2)**

### **Course Objectives**

1. To obtain an understanding principle , operation and regulations about activities of Future Farmer of Thailand (FFT.).
2. To be able to operation of Future Farmer of Thailand activities on the principles and processes .
3. To promote a positive attitude operation of Future Farmer of Thailand activities .

### **Course Standards**

1. Understand the principles of Future Farmer of Thailand (FFT.).
2. Planning the operation of Future Farmer of Thailand activities on the principles and processes.

**Course Description**

Study and practice about history, importance, principle of Future Farmer of Thailand (FFT.), management and operation of FFT., operate activities of 10 main projects, regulations about activities of FFT. .

**2500-1002 Agricultural Practice****2 (4)****Course Objectives**

1. To obtain an understanding principle about basic agricultural practice, select, use and repair equipments in farm.
2. To be able to basic agricultural practice, select, use and repair equipments in jobs on the principles and processes .
3. To promote a positive attitude toward agricultural job occupation and good work habits with creative, responsibility, elaborateness, carefulness, safety, diligence and patience.

**Course Standards**

1. Understand the principles of basic farm practice.
2. Practice farm job based on the principles and processes.
3. Select, use and repair equipments in farm on the principles and processes.

**Course Description**

Practice about agricultural practice on farms and college, select, use and repair farm equipments not less than 30 skill, student can practice in plant science, animal science, fishery, agro-industry and farm mechanics.

**2500-1003 Agricultural Vocational Skill****2 (4)**

Pre requisite: 2500-1002 Agricultural Practice

**Course Objectives**

1. To obtain an understanding principle about basic agricultural practice, select, use and repair equipments in farm.
2. To be able to basic agricultural practice, select, use and repair equipments in jobs on the principles and processes .
3. To promote a positive attitude toward agricultural job occupation and good work habits with creative, responsibility, elaborateness, carefulness, safety, diligence and patience.

**Course Standards**

1. Understand the principles of agricultural practice in farm.
2. Practice farm job based on the principles and processes.
3. Select, use and repair equipments in farm on the principles and processes.

**Course Description**

Practice, plan about agricultural practice on farms and college, choose, use and repair farm equipments in high skill level not less than 30 skill, student can circulate practice in plant science, animal science, fishery, agro-industry and farm mechanics.

# Course Description

## Vocational Courses : Core Vocational Courses

### Program ; Agricultural Science

#### **2501-1001 Farm Tractor and Machinery Operation 3 (4)**

##### **Course Objectives**

1. To understand principles, method and steps of farm tractor and machinery operation to promote agricultural production.
2. To be able to select, operate and maintain farm tractor and machinery operation.
3. To promote a good habits to work with carefulness, economy, safety and responsibility to environment.

##### **Course Standards**

1. Understand farm tractor principles, operation and maintenance.
2. Select / use farm tractor and machinery operation on the principles and processes in consideration of the soil conditions and impacts on soil properties .
3. Prevention for use farm tractor and machinery operation accidents based on the principles and processes.
4. Maintain farm tractor and machinery operation on the principles and processes.

##### **Course Descriptions**

Importance and types of tractor ; any system of tractor ; tractor equipment, select, drive and use farm tractor and machinery operation, accident prevention, impact of machinery operation on soil properties, appropriate soil conditions for machinery operation, maintenance of farm tractor and machinery operation .

#### **2501-1002 Vehicles Driving 3 (4)**

##### **Course Objectives**

1. To understand the structures; principles and maintenance of vehicles.
2. To be able vehicles driving and maintenance of vehicles in consideration of safety.
3. To promote a good habits to vehicles driving with carefulness, safety economy, and responsibility to environment.



**Course Standards**

1. Understand the structures and vehicles principles.
2. Drive and control vehicles in consideration of safety.
3. Maintain vehicles on the principle and processes.

**Course Descriptions**

Study and practice about engines, any system of vehicles, maintenance of vehicles, drive, stop, vehicles driving in consideration of safety

**2501-1003 Computer Application for Work 2 (3)****Course Objectives**

1. To obtain an understanding principles to select, use and apply computer application for work .
2. To be able to use application programs in calculations, database, area network and internet.
3. To promote a positive attitude and good habits in computer application for develop at the workplace with responsibilities, carefulness, honesty, diligence, ethics and creativity.

**Course Standards**

1. Understand the principles , use and apply computer application programs for work.
2. Apply application programs in office
3. Apply application programs in calculations in the workplace .
4. Apply application programs in database in the workplace.
5. Area network and internet.

**Course Descriptions**

Study and practice about apply application programs in the workplace; calculations in the workplace, database in the workplace, area network and internet.

**2501-1004 Principles of Plant Science 2 (3)****Course Objectives**

1. To obtain an understanding about the basic principles of plant and planting.
2. To be able to do basic planting concerned job based on processing steps by safely use of materials, equipment and tools, and aware of natural resource and environmental conservation.
3. To promote a positive attitude toward plant science works and good work habits with moral and ethics.

**Course Standards**

1. Understand basic principle of plant and planting.
2. Do the basic planting concerned job based on processing steps.
3. Select and use the materials, equipment and tools based on each job safely.

**Course Description**

Surveying the situation of crop local market; importance of plant; plant classification; comparison among the importance of economic crops; factors and environment factors affecting plant growth; planting material, equipment and tools; basic knowledge about planting and cultivation.

## **2501-1005 Principles of Animal Husbandry 2 (3)**

**Course Objectives**

1. To obtain an understanding about the basic principles of animal and animal raising .
2. To be able to practice basic animal raising according to processes; select and use equipments and houses in animal raising regarding to environmental conservation.
3. To promote a positive attitude toward animal raising works and good work habits with moral and ethics.

**Course Standards**

1. Understand primary principle about animals and animal raising .
2. Plan the lay out of livestock farm according to the principle of raising animal.
3. Select / use houses, equipment and feed for each kind of raising animal according to principles and processes.
4. Manage primary animal raising according to principles and processes.

**Course Description**

Study and practice about the important of animal raising animal raising circumstances of Thailand and foreign countries; the good traits of animal farmers; the beginning of animal raising, kinds, types and breed standard; location of animal farm, houses and equipments of animal raising, feed animals, primary animal raising methods.

**2501-1006 Introduction to Agro-Industry****2 (2)****Course Objectives**

1. To obtain an understanding about the basic principles of agro-industry work.
2. To obtain an understanding about the step to operation agro-industry work standard.
3. To promote a positive attitude toward agro-industry works and good work habits with moral and ethics.

**Course Standards**

Understand the basic principles of planning and conduct in agro-industry by standard.

**Course Descriptions**

Study and about important, type, principle of planning and basic agro-industry operation , standard of agro-industry factory.

**2501-1007 Basic Farm Workshop****2 (4)****Course Objectives**

1. To obtain an understanding basic principles of farm mechanics.
2. To be able to practice welding by gas and electric, concrete works, use and maintenance of agriculture small engines, wire easy electric circuits on the principles and processes .
3. To promote a good work habits with cleanly, economy, responsibilities, safety and responsibility to environment.

**Course Standard**

1. Understand the primary principle about farm mechanics .
2. Weld by gas and electric on the principles and processes .
3. Install water system for agriculture on the principles and processes.
4. Plan the lay out of construction and concrete works on the principles and processes.
5. Operate and maintain agriculture small engines on the principles and processes .
6. Set up easy wire electric circuits.

**Course Description**

Study and practice about weld by gas and electric, to install water system for agriculture, plan the lay out of construction and concrete works, to use and maintenance of agriculture small engines, and wire easy electric circuits.

**2600-1001 General Fisheries****2 (2)****Course Objectives**

1. To obtain an understanding about the importance of fisheries in Thailand and foreign country.
2. To obtain an understanding about the basic principles of fishery regarding to environmental conservation.
3. To promote a positive attitude toward fishery works and good work habits with moral and ethics.

**Course Standard**

Understand the principle about fishery with rules and regulations, policy and regarding to environmental conservation.

**Course Description**

Study about importance of fisheries, fisheries resource, situation of fisheries, fisheries resource conservation, fisheries act., jetty, aquatic animals product and utilize from aquatic animals, fisheries policy of Thailand.

# Course Description

## Vocational Courses : Specialized Vocational Courses

### Plant Science Specialization

**2501-2101 Vegetable Crop Production 3 (6)**  
Pre requisite: 2501-1004 Principles of Plant Science

#### Course Objectives

1. To obtain an understanding about the basic principles of vegetable crops and their production.
2. To be able to plan and manage the vegetable crop production based on the principles and processes with awareness of natural resource utilization efficiently and ecological impact.
3. To promote a positive attitude toward vegetable crops production occupation and good work habits with responsibility, carefulness and patience.

#### Course Standards

1. Understand basic principles and production planning process of vegetable crops.
2. Provide the vegetable crop production under market demand and location.
3. Produce vegetables based on principles and processes with awareness of natural resource utilization efficiently.
4. Cultivate vegetables based on principles and processes with awareness of ecological impact.
5. Manage the products by harvesting and post-harvest handling based on principles and processes.
6. Establish the vegetable production income, expense and selling account.

#### Course Description

Vegetable marketing analysis; vegetable classification; factors affecting vegetable production; production planning; planting and cultivation; harvesting and post-harvest handling; product value addition; selling and accounting.

**2501-2102 Field Crop Production 3 (6)**  
Pre requisite: 2501-1004 Principles of Plant Science**Course Objectives**

1. To obtain an understanding about the basic principles of field crops and their production.
2. To be able to plan and manage the field crop production systematically based on principles and processes with awareness of natural resource utilization efficiently and ecological impact.
3. To promote a positive attitude toward field crop production occupation and good work habits with responsibility carefulness diligence and patience.

**Course Standards**

1. Understand the basic principles and production planning process of field crops.
2. Provide field crop production under market demand and location.
3. Produce field crops based on principles and processes with awareness of natural resource utilization efficiently.
4. Cultivate field crops based on principles and processes with awareness of ecological impact.
5. Manage the products by harvesting process and post-harvest handling based on principles and processes.
6. Establish the field crop production income, expense and selling account.

**Course Description**

The field crop marketing analysis; field crop classification; factors affecting field crop production; production planning; planting and cultivation; harvesting and post-harvest handling; product value addition, selling and accounting.

**2501-2103 Fruit Crop and Tree Production 3 (6)**  
Pre requisite: 2501-1004 Principles of Plant Science**Course Objectives**

1. To obtain an understanding about the basic principles of fruit crops and trees and their production.
2. To be able to plan and manage the fruit crop and tree production based on principles and processes with awareness of natural resource utilization efficiently and ecological impact.
3. To promote a positive attitude toward fruit crop and tree production occupation and good work habits with responsibility, carefulness, diligence and patience.

**Course Standards**

1. Understand the principles and production planning process of fruit crops and trees.
2. Provide the fruit crop and tree production under market demand and location.
3. Grow the fruit crops and trees based on principles and processes with awareness of natural resource utilization efficiently.
4. Cultivate the fruit crops and trees based on principles and processes with awareness of ecological impact.
5. Manage the products by harvesting and post-harvest handling based on principles and processes.
6. Establish the fruit crop and tree production income, expense and selling account

**Course Description**

Fruit crop and tree marketing analysis; fruit crop and tree classification; factors affecting fruit crop and tree production; fruit crop and tree production planning; propagation; planting and cultivation; off-season fruit production; harvesting and post-harvest handling; post-harvest product value addition; selling and accounting.

**2501-2104      Flower and Ornamental Plant Production                      3 (6)**  
 Pre requisite:    2501-1004 Principles of Plant Science

**Course Objectives**

1. To obtain an understanding about the basic principles and flower and ornamental plant production.
2. To be able to plan and manage the flower and ornamental plant production based on principles and processes with awareness of natural resource utilization efficiently and ecological impact.
3. To promote a positive attitude toward flower and ornamental plant production occupation and good work habits with responsibility, carefulness, diligence and patience.

**Course Standards**

1. Understand the basic principles and production planning process of flowers and ornamental plants.
2. Provide flower and ornamental plant production under market demand and location.
3. Grow the flowers and ornamental plants based on principles and processes with awareness of natural resource utilization efficiently.
4. Cultivate the flowers and ornamental plants based on principles and processes with awareness of ecological impact.
5. Managing the products by harvesting process and post-harvest handling based on principles and processes.
6. Establish the flower and ornamental plant production income, expense and selling account.

### **Course Description**

Flower and ornamental plant marketing analysis; flower and ornamental plant classification; factors affecting flower and ornamental plant production; production plan; housing, material and equipment; propagation; planting and cultivation; harvesting; post-harvest handling and product utilization; post-harvest product value addition, selling and accounting.

### **2501-2105 Mushroom Production 3 (6)**

Pre requisite: 2501-1004 Principles of Plant Science

### **Course Objectives**

1. To obtain an understanding about the basic principles and mushroom and spawn production.
2. To be able to plan and manage the mushroom production based on principles and processes with awareness of natural resource utilization efficiently and ecological impact.
3. To promote a positive attitude toward mushroom production occupation and good work habits with responsibility, carefulness, diligence and patience.

### **Course Standards**

1. Understand the basic principles and production planning process of mushrooms and spawn.
2. Provide the mushroom and spawn production under market demand and location.
3. Produce the mushroom and spawn based on principles and processes with awareness of natural resource utilization efficiently.
4. Cultivate the mushroom and spawn based on principles and processes with awareness of ecological impact.
5. Manage the products by harvesting and post-harvest handling based on principles and processes.
6. Establish the mushroom and spawn production income, expense and selling account

### **Course Description**

Mushroom marketing analysis; factors affecting mushroom and spawn production; mushroom and spawn housing and equipment; mushroom and spawn production planning; spawn culture; mushroom culture; cultivation; harvesting and post-harvest handling; mushroom product value addition, selling and accounting.



**2501-2106 Herbal Plant Production 3 (6)**  
 Pre requisite: 2501-1004 Principles of Plant Science

**Course Objectives**

1. To obtain an understanding about the basic principles of herbal plants and their production.
2. To be able to plan and manage the herbal plant production systematically based on principles and processes with awareness of natural resource utilization efficiently and ecological impact.
3. To promote a positive attitude toward herbal plants production occupation and good work habits with responsibility, carefulness, diligence and patience.

**Course Standards**

1. Understand the principles and production planning process of herbal plants.
2. Provide the herbal plant production under market demand and location.
3. Produce the herbal plant based on principles and processes with awareness of natural resource utilization efficiently.
4. Cultivate the herbal plant based on principles and processes with awareness of ecological impact.
5. Manage the products by harvesting and post-harvest handling based on principles and processes.
6. Establish the herbal plant production income, expense and selling account.

**Course Description**

Herbal plants marketing analysis; herbal plants classification; factors affecting herbal planting; herbal planting plan; planting and cultivation; harvesting and post-harvest handling; medicinal properties and utilization; post-harvest product value addition; selling and accounting.

**2501-2107 Mulberry Cultivation and Sericulture 3 (6)**  
 Pre requisite: 2501-1004 Principles of Plant Science

**Course Objectives**

1. To obtain an understanding about the basic principles of mulberry, silk worm, mulberry cultivation and sericulture.
2. To be able to plan and manage the mulberry cultivation and sericulture systematically based on principles and processes with awareness of natural resource utilization efficiently and ecological impact.
3. To promote a positive attitude toward mulberry cultivation and sericulture occupation and good work habits with responsibility, carefulness, diligence and patience.

**Course Standards**

1. Understand the principles and planning process of mulberry cultivation and sericulture.
2. Provide the mulberry cultivation and sericulture under market demand and location.
3. Produce the mulberry and silk based on principles and processes with awareness of natural resource utilization efficiently.
4. Cultivate the mulberry and silk worm based on principles and processes with awareness of ecological impact.
5. Manage the products by harvesting and post-harvest handling based on principles and processes.
6. Establish the mulberry and silk production income, expense and selling account.

**Course Description**

Marketing analysis; the varieties of mulberry and silk worms; factors affecting mulberry cultivation and sericulture; mulberry cultivation and sericulture production planning; mulberry planting and cultivation; silk worm culture and sanitation; harvesting and product managing; product value addition; selling and accounting.

**2501-2108 Landscape Gardening and Maintenance 3 (6)****Course Objectives**

1. To obtain an understanding about the basic principles of landscape gardening and maintenance.
2. To be able to plan, landscape and maintain the garden systematically based on principles and processes with awareness of natural resource utilization efficiently and ecological impact.
3. To promote a positive attitude toward landscape gardening and maintenance occupation and good work habits with responsibility, carefulness, honesty, creative diligence and patience.

**Course Standards**

1. Understand the principles and planning method of designing, landscape gardening and maintenance.
2. Design and landscape based on principles.
3. Landscape based on principles and processes with awareness of environmental and ecological impact.
4. Maintenance the garden based on the plan systematically.
5. Establish the income and expense account for pricing estimation and pricing proposition for landscape gardening and maintenance.

**Course Description**

Landscape gardening market demand analysis; landscape gardening business; garden form and component; location surveying; designing and landscape gardening planning; pricing estimation and pricing proposition; landscape gardening and maintenance; accounting.

**2501-2109 Biological Substance Production for Agriculture 3 (6)****Course Objectives**

1. To obtain an understanding about the principles of biological substance production for agriculture.
2. To be able to produce the biological substances for agriculture based on the principles and processes with awareness of environmental and ecological impact.
3. To promote a positive attitude toward agricultural occupation and good work habits with responsibility, honesty, creative, diligence and patience.

**Course Standards**

1. Understand the principles and planning process of biological substance production for agriculture.
2. Provide the biological substance production for agriculture under local needed and local existing material.
3. Produce the biological substances based on principles and processes with awareness of environmental and ecological impact.
4. Manage the biological substances after produced by quality inspection and storage based on principles and processes.
5. Apply biological substance based on principles and processes.
6. Establish the biological substance for agriculture production income, expense and selling account.

**Course Description**

The importance of biological substance; the development of biological substance; biological substance classification; quality inspection of biological substance for agriculture; biological substance production for agriculture; storage; utilization; selling and accounting.

**2501-2150-99 Production Project... (Plant Science) 2 (4)**  
 Pre requisite: 2501-1004 Principles of Plant Science

### **Course Objectives**

1. To be able to produce crops systematically as followed planning, implementation, problem solving, management after produced for survival and selling.
2. To promote a positive attitude toward agricultural occupation development and good work habits with creative, responsibility, diligence and patience.

### **Course Standards**

1. Establish crop production project plan based on principles and processes.
2. Provide the crop production following the project and working plan.
3. Produce and cultivate the crops following the project and working plan.
4. Manage the products by harvesting, post-harvest handling and selling following the project and working plan.
5. Conclude the implementation and project income and expense.

### **Course Description**

Practices concerning: analyzing of market situation and other related data; planning and making crops production project; implementation and correcting production problem; managing the product and selling; recording; reporting and accounting.

**2501-41... Plant Science Work... \* (\*)**  
 Pre requisite: 2501-1004 Principles of Plant Science

### **Course Objectives**

1. To obtain an understanding about principles of crops production and service.
2. To be able to produce crops and service systematically as followed: planning, implementation, evaluation, select and use appropriate technology for operation.
3. To promote a positive attitude toward agricultural occupation development and good work habits with creative, responsibility, elaborateness, carefulness, safety, diligence and patience.

### **Course Standards**

1. Understand the principles of crop production and service.
2. Establish crop production plan and service plan based on the principle.
3. Produce and service about crops based on the principle and processes.
4. Improve and correct crop production and service problem.
5. Manage the products based on the principles and processes.

**Course Description**

Study and practice about crop production and service on workplaces, farms and academic sources; planning; crops production and service operation; improving and correcting crop production and service problem; product management and selling; recording, reporting and accounting.

## **Animal Science Specialization**

**2501-2201 Poultry Production** **3 (6)**  
 Pre requisite: 2501-1005 Principles of Animal Husbandry

### **Course Objectives**

1. To understanding the principles of poultry and poultry production.
2. To be able to plan and manage poultry production according to the principles and processes regarding impacts on society and environment.
3. To promote a positive attitude toward poultry production and to have good habits concerning responsibilities, carefulness, diligence and patience.

### **Course Standards**

1. Understand the principles, processes, planning and production of poultry.
2. Prepare housing, equipment, breeds and feed based on the principles and processes.
3. Manage poultry in different periods based on the principles and processes regarding energy and environment conservation.
4. Manage poultry products based on the principles and processes.
5. Records credit and debit accounts of poultry production and selling.

### **Course Descriptions**

Analysis of poultry marketing and poultry production planning; housing and equipment; breed selection; feed and feeding; managing in poultry periods; sanitation; product management and selling; from data recording and accounting; energy and environment conservation for poultry production.

**2501-2202 Swine Production** **3 (6)**  
 Pre requisite: 2501-1005 Principles of Animal Husbandry

### **Course Objectives**

1. To understanding the principles of swine and swine production.
2. To be able to plan and manage swine production according to the principles and processes regarding impacts on society and environment.
3. To promote a positive attitude toward swine production and to have good habits concerning responsibilities, carefulness, diligence and patience.

### **Course Standards**

1. Understand the principles, processes, planning and production of swine.
2. Prepare housing, equipment, breeds and feed based on the principles and Processes.
4. Manage swine in different periods based on the principles and processes regarding energy and environment conservation.
5. Manage swine products based on the principles and processes.
6. Records credit and debit accounts of swine production and selling.

**Course Descriptions**

Analysis of swine marketing and swine production planning; housing and Equipment; breed selection; feed and feeding; managing in swine periods; sanitation; product management and selling; from data recording and accounting; energy and environment conservation for swine production.

**2501-2203 Cattle Production 3 (6)**

Pre requisite: 2501-1005 Principles of Animal Husbandry

**Course Objectives**

1. To understanding the principles of cattle and cattle production.
2. To be able to plan and manage cattle production according to the principles and processes regarding impacts on society and environment.
3. To promote a positive attitude toward cattle production and to have good habits concerning responsibilities, carefulness, diligence and patience.

**Course Standards**

1. Understand the principles, processes, planning and production of cattle.
2. Prepare housing, equipment, breeds and feed based on the principles and processes.
3. Manage cattle in different periods based on the principles and processes regarding energy and environment conservation.
4. Manage cattle products based on the principles and processes.
5. Records credit and debit accounts of cattle production and selling.

**Course Descriptions**

Analysis of cattle marketing and cattle production planning; housing and Equipment; breed selection; feed and feeding; managing in cattle periods; sanitation; product management and selling; from data recording and accounting; energy and environment conservation for cattle production.

**2501-2204 Fish Breeding 3 (6)**

Pre requisite: 2501-1005 Principles of Animal Husbandry

**Course Objectives**

1. To understanding the principles of aquatic animals and fish breeding.
2. To be able to plan and manage fish breeding according to the principles and processes regarding impacts on society and environment.
3. To promote a positive attitude toward fish breeding and to have good habits concerning responsibilities, carefulness, diligence and patience.

**Course Standards**

1. Understand the principles, processes, planning and fish breeding.
2. Preparation before conducting fish breeding followed by situation and environmental.
3. Fish breeding by principles and processes.
4. Operate and manage fish breeding by principles and processes concern of social and environmental conservation.
5. Operate and manage after fish breeding by principles and processes.
6. Records credit and debit fish breeding and selling.

**Course Descriptions**

Study and operate about analyzation and planning of fish breeding, breed stock and equipment preparation, breed selection, feed and feeding, management and culture, breeding, nursery, management of production and selling, records farm work and finance, energy and environmental conservation in fish breeding.

**2501-2205 Fish Culture****3 (6)**

Pre requisite: 2501-1005 Principles of Animal Husbandry

**Course Objectives**

1. To understanding the principles of fishery and fish culture.
2. To be able to plan and manage fish culture according to the principles and processes regarding impacts on society and environment.
3. To promote a positive attitude toward fish culture and to have good habits concerning responsibilities, carefulness, diligence and patience.

**Course Standards**

1. Understand the principles, processes, planning and fish culture.
2. Prepare place, equipment, water, feed and species of fishery before conducting fish culture followed by situation and environmental.
3. Fish culture by principles and processes.
4. Operate and manage fish culture by principles and processes.
5. Manage fishery products based on the principles and processes.
6. Records credit and debit fishery and selling.

**Course Descriptions**

Study and operate about market analyzing and type of fish culture, planning of fish culture, area selection, pond and pond preparation, water quality, fingerling delivery techniques, feed and feeding, prevention and elimination of diseases, parasites, predator of aquatic animals, problem and financing, calculate cost of product and set up selling price.



**2501-2206 Introduction and Hatchery Management 3 (6)**  
 Pre requisite: 2501-1005 Principles of Animal Husbandry

**Course Objectives**

1. To understand the principles of incubation and hatchery management.
2. To be able to prepare incubators, equipment and eggs incubator management and solving incubation problems based on the principles and processes regarding energy conservation and the impacts on environment.
3. To promote a positive attitude toward hatching and hatchery management occupation, to have good habits concerning work responsibilities, carefulness, diligence and patience.

**Course Standards**

1. Understand the principles and the procedures of incubation planning and basic of hatchery management.
2. Prepare housing, tools and equipment and eggs based on the principles and Processed.
3. Hatch eggs based on the principles and processes.
4. Manage the chicks after hatching based on the principles and processes.
5. Make credit and debit accounts of chicks hatched and sold.

**Course Descriptions**

Analysis of importance of egg hatching, marketing and hatchery planning; incubation methods; factors affecting hatching; embryonic development; tools and equipment; housing and hatchery management; incubation management; product management and selling; problems on incubation; farm data recording and accounting.

**2501-2207 Ostrich Raising 2 (3)**  
 Pre requisite: 2501-1005 Principles of Animal Husbandry

**Course Objectives**

1. To understand the basis of Ostrich and the principles of Ostrich raising.
2. To be able to raising Ostrich based on the principles and processes regarding impact on environment.
3. To promote a positive attitude toward Ostrich raising occupation and good work habits concerning responsibilities, carefulness, faithfulness diligence and patience.

**Course Standards**

1. Understand the principles and processes of Ostrich raising.
2. Prepare housing, equipment breeds and feed for Ostriches based on the principles and processes.
3. Manage Ostriches in different periods based on the principles and processes regarding energy and environment conservation.
4. Manage Ostrich products based on the principles and processes.
5. Make credit and debit accounts of Ostrich raising and setting.

**Course Descriptions**

Study and practice about importance and situation of Ostrich raising; housing and equipment; breed and breed selection; feed and feeding; Ostrich management in various stages; sanitation; Marketing and selling; farm data recording and accounting; energy and environment conservation for Ostrich raising occupation.

**2501-2208 Rabbit Raising 2 (3)**

Pre requisite: 2501-1005 Principles of Animal Husbandry

**Course Objectives**

1. To understand the basis of Rabbit and the principles of Rabbit raising.
2. To be able to raising Rabbit based on the principles and processes regarding Impact on environment.
3. To promote a positive attitude toward Rabbit raising occupation and good work habits concerning responsibilities, carefulness, faithfulness diligence and patience.

**Course Standards**

1. Understand the principles and processes of Rabbit raising.
2. Prepare housing, equipment breeds and feed for Rabbit based on the principles and processes.
3. Manage Rabbit in different periods based on the principles and processes regarding energy and environment conservation.
4. Manage Rabbit products based on the principles and processes.
5. Records credit and debit accounts of Rabbit raising and setting.

**Course Descriptions**

The importance and situation of Rabbit raising; housing and equipment; breed and breed selection; feed and feeding; Rabbit management in various stages; sanitation; marketing and selling; farm data recording and accounting; energy and environment conservation for Rabbit raising occupation.

**2501-2209      Goat and Sheep Raising      2 (3)**  
Pre requisite:    2501-1005 Principles of Animal Husbandry

**Course Objectives**

1. To understand the basis of Goat and Sheep and the principles of Goat and Sheep raising.
2. To be able to raising Goat and Sheep based on the principles and processes regarding impact on environment.
3. To promote a positive attitude toward Goat and Sheep raising occupation and good work habits concerning responsibilities, carefulness, faithfulness diligence and patience.

**Course Standards**

1. Understand the principles and processes of Goat and Sheep raising.
2. Prepare housing, equipment breeds and feed for Goat and Sheep based on the principles and processes.
3. Manage Goat and Sheep in different periods based on the principles and processes regarding energy and environment conservation.
4. Manage Goat and Sheep products based on the principles and processes.
5. Records credit and debit accounts of Goat and Sheep raising and setting.

**Course Descriptions**

The importance and situation of Goat and Sheep raising; housing and equipment; breed and breed selection; feed and feeding; Goat and Sheep management in various stages; sanitation; marketing and selling; farm data recording and accounting; energy and environment conservation for Goat and Sheep raising occupation.

**2501-2210      Deer Raising      2 (3)**  
Pre requisite:    2501-1005 Principles of Animal Husbandry

**Course Objectives**

1. To understand the basis of Deer and the principles of Deer raising.
2. To be able to raising Deer based on the principles and processes regarding impact on environment.
3. To promote a positive attitude toward Deer raising occupation and good Work habits concerning responsibilities, carefulness, faithfulness diligence and patience.

**Course Standards**

1. Understand the principles and processes of Deer raising.
2. Prepare housing, equipment breeds and feed for Deer based on the principles and processes.
3. Manage Deer in different periods based on the principles and processes regarding energy and environment conservation.
4. Manage Deer products based on the principles and processes.
5. Make credit and debit accounts of Deer raising and setting.

**Course Descriptions**

The importance and situation of Deer raising; housing and equipment; breed and breed selection; feed and feeding; Deer management in various stages; sanitation; marketing and selling; farm data recording and accounting; energy and environment conservation for Deer raising occupation.

**2501-2211 Buffalo Raising****2 (3)**

Pre requisite: 2501-1005 Principles of Animal Husbandry

**Course Objectives**

1. To understand the basis of Buffalo and the principles of Buffalo raising
2. To be able to raising Buffalo based on the principles and processes regarding impact on environment.
3. To promote a positive attitude toward Buffalo raising occupation and good Work habits concerning responsibilities, carefulness, faithfulness diligence and patience.

**Course Standards**

1. Understand the principles and processes of Buffalo raising.
2. Prepare housing, equipment breeds and feed for Buffalo based on the principles and processes.
3. Manage Buffalo in different periods based on the principles and processes regarding energy and environment conservation.
4. Manage Buffalo products based on the principles and processes.
5. Records credit and debit accounts of Buffalo raising and setting.

**Course Descriptions**

The importance and situation of Buffalo raising; housing and equipment; breed and breed selection; feed and feeding; Buffalo management in various stages; sanitation; marketing and selling; farm data recording and accounting; energy and environment conservation for Buffalo raising occupation.

**2501-2212      Roughage Production** **2 (3)**  
 Pre requisite:    2501-1005 Principles of Animal Husbandry

**Course Objectives**

1. To understand forage crops and the principles of roughage production.
2. To be able to produce forage crops based on the principles and processes regarding the impacts on environment and ecosystem.
3. To promote a positive attitude toward forage crops and production good work habits concerning responsibilities, carefulness, faithfulness, diligence and patience.

**Course Standards**

1. Understand the principles and processes of basic roughage production.
2. Prepare tools, equipment, area and forage breeds, based on the principles and processes.
3. Grow and manage forage crops based on the principles and processes regarding energy and environment conservation.
4. Manage forage products by harvesting, post harvest managing and preserving based on the principles and processes.
5. Records credit and debit accounts and selling forage crops.

**Course Descriptions**

The importance and situation of forage crops; types and breeds of forage crops; tool and equipment; growing and managing forage crops; housing and post harvest managing; use and preservation; marketing and selling; data recording and accounts; energy and environment conservation.

**2501-2213      Animal Feed Production** **2 (3)**  
 Pre requisite:    2501-1005 Principles of Animal Husbandry

**Course Objectives**

1. To understand the basis of animal feeds and the principles of feed production.
2. To be able to produce animal feed according to the principles and processes.
3. To promote a positive attitude toward animal feed production and good work habits concerning responsibilities, carefulness, save; faithfulness, diligence and patience.

**Course Standards**

1. Understand the principles and processes of animal feed production.
2. Prepare tools, equipment, area and feed stuff according to the principles and processes.
3. Calculate feed formulation based on the principles and processes.
4. Produce animal feed according to the principles and processes regarding energy and environment conservation.
5. Preserve animal feed based on the principles and processes.
6. Records credit and debit accounts and selling animal feed.

**Course Descriptions**

Animal feed industry in Thailand; types and kinds of animal feed; good qualities feed stuff; calculate animal feed formulation; productive process and preservation; problems and obstacles; calculate cost production; selling and accounting.

**2501-2250-99      Production Project...(Animal)    2 (4)**

Pre requisite:      2501-1005      Principles of Animal Husbandry

**Course Objectives**

1. To be able to systematically practice animal production, planning, doing, problem solving, product management for maintenance and selling..
2. To promote a positive attitude toward to have good habits in Agricultural occupation development, creativity, responsibilities, diligence and patience.

**Course Standards**

1. Plan the animal project according to the principles and the processes.
2. Prepare to produce animal based on the project and planning.
3. Practice animal production and raising based on production planning and project..
4. Manage and selling products based on the project production.
5. Conclude the result and make credit-debit accounts of the project.

**Course Descriptions**

Analysis of marketing situation and other involved data; planning and marketing project; and production solving problem; management and selling products; recording, reporting and accounting.

**2501-42              Animal Science Work    \* (\*)**

Pre requisite:      2501-1005 Principles of Animal Husbandry

**Course Objectives**

1. To understand the principles and service of animal science work.
2. To be able to practice production and giving service related to animal science work based on the principles and processes by planning, doing evaluating, selecting and using appropriate technology.
3. To promote a positive attitude toward and to have good work habits, concerning creativities, responsibilities, carefulness, safety, diligence and patience.

**Course Standards**

1. Understand the principles and service on animal science work.
2. Plan to produce give service on animal science work based on the principle.
3. Produce give service on animal science work based on the principles and processes.
4. Improve animal breeds, solve problems and give service on animal science work.
5. Manage products based on the principle processes.

**Course Descriptions**

Producing and giving service on animal science work in the workplace/ farm/ resource; planning; producing and service giving on animal science work, improving and marketing solution to the problems/ service on ; product management and selling; data recording, reporting the result and accounting.

## Agro-Industry Specialization

### **2501-2301 Plant Products**

**3 (6)**

Pre requisite: 2501-1006 Introduction to Agro-industry

#### **Course Objectives**

1. To gain basic principle knowledge about plant products.
2. To be able to process plant products according to the principles and processes with appropriate technology by concern of energy and environmental conservation.
3. To promote positive attitude to agro-industry career and good work habits with responsibility; carefulness, creativity, diligence and patience.

#### **Course Standards**

1. Understand the principles; process planning and produce plant products.
2. Prepare equipments and raw material for plants production.
3. Produce plant products follow the principles and processes with appropriate technology by concern of energy and environmental conservation.
4. Manage products by packaging; storage follow the principles and processes
5. Records account of production and distribution of plant products.

#### **Course Descriptions**

Analyze the importance and usefulness; types and categories of plant products; marketing and process planning, raw material selection; equipment, processing and quality control; quality evaluation, packaging, storage, distribution sanitation and environment in plant products processing.

### **2501-2302 Animal Products**

**3 (6)**

Pre requisite: 2501-1006 Introduction to Agro-industry

#### **Course Objectives**

1. To gain basic principle knowledge about animal products.
2. To be able to process animal products according to the principles and processes with appropriate technology by concern of energy and environmental conservation.
3. To promote positive attitude to agro-industry career and good work habits with responsibility; carefulness, creativity, diligence and patience.

#### **Course Standards**

1. Understand the principles; process planning and produce animal products.
2. Prepare equipments and raw material for animal production.
3. Produce animal products follow the principles and processes with appropriate technology by concern of energy and environmental conservation.
4. Manage products by packaging; storage follow the principles and processes
5. Records account of production and distribution of animal products.



**Course Descriptions**

Analyze the importance and usefulness; types and categories of animal products, marketing and process planning; raw material selection, equipment, processing and quality control, quality evaluation; packaging, storage, distribution sanitation and environment in animal products processing.

**2501-2303 Dairy Products****3 (6)**

Pre requisite: 2501-1006 Introduction to Agro-industry

**Course Objectives**

1. To gain basic knowledge of dairy products.
2. To be able to process dairy products according to the principles and processes with appropriate technology by concern of energy and environment conservation.
3. To promote positive attitude to agro-industry career and good work habits with responsibility; carefulness creativity, diligence and patience.

**Course Standards**

1. Understand the principles; process planning and produce dairy products.
2. Prepare equipments and raw material for dairy products.
3. Produce dairy products follow the principles and processes with appropriate technology by concern of energy and environmental conservation.
4. Manage products by packaging; storage follow the principles and processes
5. Records account of production and distribution of dairy products.

**Course Descriptions**

Analyze the importance and usefulness; types and categories of dairy products, marketing and process planning; raw material selection, equipment, processing and quality control, quality evaluation; packaging, storage, distribution sanitation and environment in dairy products processing.

**2501-2304 Fishery Products****3 (6)**

Pre requisite: 2501-1006 Introduction to Agro-industry

**Course Objectives**

1. To gain basic knowledge about fishery products.
2. To be able to process fishery products according to the principles and processes with appropriate technology by concern of energy and environmental conservation.
3. To promote positive attitude to agro-industry career and good work habits with responsibility, carefulness creativity, diligence and patience.

**Course Standards**

1. Understand the principles; process planning and produce fishery products.
2. Prepare equipments and raw material for fishery products.
3. Produce fishery products follow the principles and processes with appropriate technology by concern of energy and environmental conservation.
4. Manage products by packaging; storage follow the principles and processes
5. Records account of production and distribution of fishery products.

**Course Descriptions**

Analyze the importance and usefulness; types and categories of fishery products, marketing and process planning; raw material selection, equipment, processing and quality control, quality evaluation; packaging, storage, distribution sanitation and environment in fishery products processing.

**2501-2305 Mushroom Products****3 (6)**

Pre requisite: 2501-1006 Introduction to Agro-Industry

**Course Objectives**

1. To gain basic knowledge of mushroom products.
2. To be able to process mushroom products according to the principles and processes with appropriate technology by concern of energy and environmental conservation.
3. To promote positive attitude to agro-industry career and good work habits with responsibility; carefulness creativity, diligence and patience.

**Course Standards**

1. Understand the principles; process planning and produce mushroom products.
2. Prepare equipment and raw material for mushroom products.
3. Produce mushroom products follow the principles and processes with appropriate technology by concerning of energy and environmental conservation.
4. Manage products by packaging; storage follow the principles and processes
5. Records account of production and distribution of mushroom products.

**Course Descriptions**

Analyze the importance and usefulness; types and categories of mushroom products, marketing and process planning; raw material selection, equipment, processing and quality control; quality evaluation, packaging, storage, distribution sanitation and environment in mushroom products processing.

**2501-2306 Herb Products****3 (6)**

Pre requisite: 2501-1006 Introduction to Agro-Industry

**Course Objectives**

1. To gain basic knowledge of herb products.
2. To be able to process herb products according to the principles and processes with appropriate technology by concern of energy and environmental conservation.
3. To promote positive attitude to agro-industry career and good work habits with responsibility; carefulness creativity, diligence and patience.

**Course Standards**

1. Understand the principles; process planning and produce herb products.
2. Prepare equipments and raw material for herb products.
3. Produce herb products follow the principles and processes with appropriate technology by concern of energy and environmental conservation.
4. Manage products by packaging; storage follow principles and processes
5. Records account of production and distribution of herb products.

**Course Descriptions**

Analyze the importance and usefulness; types and categories of herb products, marketing and process planning; raw material selection, equipment, processing and quality control; quality evaluation, packaging, storage, distribution sanitation and environment in herb products processing.

**2501-2307 Cereal Products****3 (6)**

Pre requisite: 2501-1006 Introduction to Agro-Industry

**Course Objectives**

1. To gain basic knowledge of cereal products.
2. To be able to process cereal products according to the principles and processes with appropriate technology by concern of energy and environmental conservation.
3. To promote positive attitude to agro-industry career and good work habits with responsibility; carefulness creativity, diligence and patience.

**Course Standards**

1. Understand the principles; process planning and produce cereal products.
2. Prepare equipments and raw material for cereal products.
3. Produce cereal products follow principles and processes with appropriate technology by concern of energy and environmental conservation.
4. Manage products by packaging; storage follow principles and processes
5. Records account of production and distribution of cereal products.

**Course Descriptions**

Analyze the importance and usefulness; types and categories of cereal products, marketing and process planning; raw material selection, equipment, processing and quality control; quality evaluation, packaging, storage, distribution sanitation and environment in cereal products processing.

**2501-2308 Product Management for Processing 2 (3)****Course Objectives**

1. To gain basic knowledge of product management for processing.
2. To be able to select and prepare produce before processing according to the principles and processes.
3. To promote positive attitude to product management for processing works and good work habits with responsibility; carefulness, economy, honesty, diligence and patience.

**Course Standards**

1. Understand the principles and processes of product management for processing.
2. Manage products for processing follow the standards.
3. Prepare products for processing follow the principles and processes.

**Course Descriptions**

The importance and usefulness of plant and animal products management; biochemical reaction, physiology and others that occur while storage, prevent spoilage of products before processing; standard classification of products for processing, preparing products before processing.

**2501-2309 Food additive 2 (3)****Course Objectives**

1. To gain knowledge and understanding of food additives.
2. To be able to select and use food additives appropriately and safely according to the principles and processes.
3. To promote a positive attitude in using food additives and good work habits with carefulness; honesty and responsibility to consumer.

**Course Standards**

1. Understand the principles and processes on using food additives.
2. Select and use food additives according to the principles and processes.
3. Examine qualification and effects of food additives follow the standards.

**Course Descriptions**

The importance and usefulness of food additives; types and categories of food additives; qualification and effects of food additives; qualification inspection and effects of food additives.

**2501-2310 Butchering 2 (4)**

**Course Objectives**

1. To gain principle knowledge of butchering.
2. To be able to practice butchering in different animals properly follow the principles and processes; clean, sanitation and get good carcass.
3. To promote a positive attitude to butchering work and good work habits with responsibility; creativity and responsibility to consumer.

**Course Standards**

1. Understand the principles and processes of butchering.
2. Prepare equipments and animals before butchering follow the principles and processes.
3. Butcher according to the principles and processes by aware of cleanness and sanitation.
4. Inspect carcass quality according to the standards.
5. Manage carcass after butcher by dressing; storage, packaging and distribution follow the principles and processes.

**Course Descriptions**

The importance of butchering; selection and prepare the animals before butcher; equipments, butchering, carcass inspection; dressing, storage, packaging and marketing; sanitation and environment in butchering.

**2501-2350-99 Agro-Industry Production and Processing Projects 2 (4)**

Pre requisite: 2501-1006 Introduction to Agro-Industry

**Course Objectives**

1. To be able to produce agro-industry products and processing systemically by planning; solve the problems in the process for sustenance and distribution.
2. To promote positive attitude and good work habits for developing agricultural career; creativity, responsibility carefulness, diligence and patience.

**Course Standards**

1. Plan production/processing projects follow the principles and processes.
2. Prepare production/processing follow the projects and plans.
3. Produce/process agro-industry products follow the project plans.
4. Manage the products after producing/processing and distribute follow the project plans.
5. Conclude the result; expense-receipt of the projects.

**Course Descriptions**

Analyze market situation and others related information; plan and make project of producing/processing; do producing/processing and improving; solving the problems in producing/processing; products management and distribution; recording, reporting the result of works and account.

**2501-43... Agro-Industry Work**

\* (\*)

Pre requisite: 2501-1006 Introduction to Agro-Industry

**Course Objectives**

1. To gain knowledge and understanding about the principles of producing/service in agro-industry.
2. To be able to produce/service in agro-industry systemically follow the principles and processes by planning; conduct and evaluate; select and use appropriate technology.
3. To promote a positive attitude and good work habits in developing agricultural career; creativity, responsibility, carefulness, safety, diligence and patience.

**Course Standards**

1. Understand the principles of producing/service in agro-industry.
2. Plan for producing/service in agro-industry follow the principles.
3. Produce/service in agro-industry follow the principles and processes.
4. Improve and solve the problems on producing/service in agro-industry.
5. Manage products follow the principles and processes.

**Course Descriptions**

Produce/service in agro-industry in workplace/farm; academic resources, planning; conduct/service in agro-industry; product management and distribution; recording, reporting the result of works and account.

## **Farm Mechanics Specialization**

**2501-2401      Small Engines** **3 (6)**  
Pre requisite:    2501-1007 Basic Farm Workshops

### **Course Objectives**

1. To understand basic and principles of small engines.
2. To be able to select, operate, maintain and repair small engines basically according to the principles and processes.
3. To promote a positive attitude toward farm mechanic works and good habits to work with responsibility, carefulness, safety, intelligence and patience.

### **Course Standards**

1. Understand small engine principles, operation, maintenance and repair.
2. Select small engines for suitable works.
3. Operate small engines by safety precaution.
4. Maintain small engines upon the standards.
5. Inspect small engine conditions.
6. Repair small engines basically.

### **Course Descriptions**

Types, structures and principles of small engines; selection, operation, maintenance, basic diagnosis and repair small engines; disassembly, clean, arrange parts; spare part consideration for changing, adjusting and repairing engine systems.

**2501-2402      Farm Machinery** **3 (6)**  
Pre requisite:    2501-1007 Basic Farm Workshops

### **Course Objectives**

1. To understand principles of operation and maintenance farm machinery.
2. To be able to operate and maintain farm machinery according to the principles and processes.
3. To promote a positive attitude toward farm mechanic works and good habits to work with responsibility, carefulness, safety, intelligence and patience.

### **Course Standards**

1. Understand farm machinery principles, operation and maintenance.
2. Select farm machinery for suitable works.
3. Operate farm machinery by safety precaution.
4. Maintain farm machinery upon the standards.

### **Course Descriptions**

Importance and types of farm machinery; principles, operation and maintenance of tillage equipment, planter, weeder, sprayer, fertilizer applicator, water pump, harvester, processing equipment, handling and silo.

**2501-2403 Farm Electricity 3 (6)**  
 Pre requisite: 2501-1007 Basic Farm Workshops

**Course Objectives**

1. To understand principles of installation, operation and maintenance of farm electric devices.
2. To be able to operate and maintain farm electric devices and wire various electric circuits according to the principles and processes.
3. To promote a positive attitude toward farm mechanic works and good habits to work with responsibility, carefulness, safety, intelligence and patience.

**Course Standards**

1. Understand basic principles of electricity and operation in electric works.
2. Select/operate farm electric devices in consideration of safety and economy.
3. Wire electric circuits in buildings.
4. Maintain farm electric devices in consideration of safety and economy.
5. Calculate electricity expenses.

**Course Descriptions**

Basic principles of electricity; safety in electrical works; various types of electric circuits; farm electric devices; electric circuit wiring in buildings; electricity expense calculation; electricity saving; farm electric device operation and maintenance; various types of wiring.

**2501-2404 Welding 3 (6)**  
 Pre requisite: 2501-1007 Basic Farm Workshops

**Course Objectives**

1. To understand principles of metal selections and welding machine safely uses.
2. To be able to select /use metals and welding machines safely, maintain welding machines and accessories according to the principles and processes.
3. To promote a positive attitude toward farm mechanic works and good habits to work with responsibility, carefulness, safety, intelligence and patience.

**Course Standards**

1. Understand principles and processes of gas and electric welding.
2. Select/use the equipments and metals in welding.
3. Weld the metals by gas and electric welding machines in consideration of safety and economy.
4. Check welding qualities.
5. Maintain gas and electric welding machines.



**Course Descriptions**

Importance of welding; principles of gas and electric welding machines; basic properties of metals; metal selection for suitable works; welding machines and accessories operation and safety; basic works about metals; machine adjustment, operation and welding quality check.

**2501-2405      Introductions to Surveying      3 (6)**

Pre requisite:    2501-1007    Basic Farm Workshops

**Course Objectives**

1. To understand basic principles of survey equipment operation for distance measurement and leveling.
2. To be able to use survey equipments for distance measurement and leveling according to the principles and processes.
3. To promote a positive attitude toward farm mechanic works and good habits to work with responsibility, carefulness, safety, intelligence and patience.

**Course Standards**

1. Understand principles and processes of surveying.
2. Select/use survey equipments and accessories.
3. Practice in distance measurement, traverse survey and leveling.
4. Maintain survey equipments.

**Course Descriptions**

Types and steps of surveying; survey equipments and accessories; various types of distance measurement; traverse survey and leveling; operation and maintenance of survey equipments and accessories.

**2501-2406      Introduction to Construction      3 (6)**

Pre requisite:    2501-1007    Basic Farm Workshops

**Course Objectives**

1. To understand basic principles of construction.
2. To be able to practice and maintain in farm building construction.
3. To promote a positive attitude toward farm mechanic works and good habits to work with responsibility, carefulness, safety, intelligence and patience.

**Course Standards**

1. Understand principles and processes of construction.
2. Read and draw farm construction drawings basically.
3. Select/use equipments and construction materials upon the standards.
4. Practice basic construction works by safety precaution.
5. Maintain farm buildings.

**Course Descriptions**

Reading and drawing farm construction drawings; construction materials; masonry; concrete works; wood works; painting; plumbing; farm building layout and maintenance.

**2501-2407 Power Sources and Transmission 3 (6)**

Pre requisite: 2501-1007 Basic Farm Workshops

**Course Objectives**

1. To understand basic principles of power sources and transmission.
2. To be able to install, operate and maintain power sources and transmission.
3. To promote a positive attitude toward farm mechanic works and good habits to work with responsibility, carefulness, safety, intelligence and patience.

**Course Standards**

1. Understand power source principles, operation and maintenance.
2. Select measuring and inspecting equipments and power sources for suitable works.
3. Calculate sizes of gears and pulleys for suitable works.
4. Install power sources and transmission in consideration of safety and economy.
5. Operate power sources and transmission.
6. Maintain power sources and transmission upon the standards.

**Course Descriptions**

Types of power sources; measuring and inspecting equipments; electricity system units; motors; electricity power controls; various types of transmission; size and power source selection; gear and pulley size calculation; installation, operation and maintenance of power sources and transmission.

**2501-2408 Irrigation 3 (6)**

Pre requisite: 2501-1007 Basic Farm Workshops

**Course Objectives**

1. To understand basic principles of farm irrigation.
2. To be able to select suitable water sources and methods of irrigation according to the principles and processes.
3. To promote a positive attitude toward farm irrigation works and good habits to work with carefulness, safety, economy, intelligence, patience and responsibility to natural resources and environment.

**Course Standards**

1. Understand basic principles and processes of farm irrigation.
2. Measure soil moisture contents and water holding capacity.
3. Calculate water requirement for plants and supplied water.
4. Design plantation and types of irrigation.
5. Select/use equipments in farm irrigation.
6. Maintain equipments in farm irrigation.

**Course Descriptions**

Importance of farm irrigation; hydrologic cycle; soil and soil structures; soil types and density; soil, water and plant relationship; measurement of soil moisture contents and water holding capacity; diffusion and infiltration; water requirement for plants and supplied water; time schedule; planning for plantation and irrigation; supplying water from irrigation sources; farm irrigation equipment operation and maintenance.

**2501-2409 Farm Machinery for Rice Production 3 (4)**  
Pre requisite: 2501-1007 Basic Farm Workshops

**Course Objectives**

1. To understand farm machinery for rice production principles, selection, operation, maintenance and repair.
2. To be able to select, operate, adjust, maintain and repair machinery for rice production in consideration of the impacts on environment and ecosystem.
3. To promote a positive attitude toward a career of agriculture and good habits to work with responsibility, carefulness, economy, safety, intelligence and patience.

**Course Standards**

1. Understand rice production principles; rice production machinery operation, maintenance and repair.
2. Select rice production machinery for suitable works.
3. Operate implements/machinery for rice production in consideration of safety and the impacts on environment and ecosystems.
4. Maintain and repair farm machinery/implements for rice production.

**Course Descriptions**

Methods of rice production; two-wheel tractor and implement selection, operation, maintenance and repair; rice transplanters, seed drills, pumps, sprayers reapers, threshers and silos.

**2501-2410 Two-Wheel Tractors** **3 (4)**  
 Pre requisite: 2501-1007 Basic Farm Workshops

**Course Objectives**

1. To understand two-wheel tractor principles, selection, operation, adjustment, maintenance and repair.
2. To be able to select, operate, adjust, maintain and repair two-wheel tractors in consideration of the impacts on environment and ecosystem.
3. To promote a positive attitude toward a career of agriculture and good habits to work with responsibility, carefulness, economy, safety, intelligence and patience.

**Course Standards**

1. Understand two-wheel tractor principles, operation, maintenance and repair.
2. Adjust the various systems of two-wheel tractors.
3. Operate two-wheel tractors in consideration of safety and the impacts on environment and ecosystem.
4. Maintain and repair two-wheel tractors and implements.

**Course Descriptions**

Importance, types and constructions of two-wheel tractors; engines; transmissions; adjustment, operation, maintenance and repair two-wheel tractors; accident prevention; attached implements and selection for suitable works.

**2501-2411 Water Pump** **3 (4)**  
 Pre requisite: 2501-1007 Basic Farm Workshops

**Course Objectives**

1. To understand principles of water pump, selection, operation, installation, maintenance and repair in agricultural works.
2. To be able to select, operate, install, maintain and repair water pumps in consideration of the impacts on environment and ecosystem.
3. To promote a positive attitude toward a career of agriculture and good habits to work with responsibility, carefulness, economy, safety, intelligence and patience.

**Course Standards**

1. Understand principles of water pump, operation, maintenance and repair in agricultural works.
2. Select types and sizes of water pumps for suitable works.
3. Disassemble and re-assemble the water pumps.
4. Install water pumps according to the principles and processes.
5. Operate water pumps.
6. Maintain water pumps.
7. Remedy water pumps.

**Course Descriptions**

Basic principles of water pumps; types of water pumps for agriculture; pump selection and size determination; pump disassembly and diagnosis; pump installation; pump operation, maintenance, faults and remedies.

**2501-2412 Water Supply System for Agriculture Construction 3 (4)**

Pre requisite: 2501-1007 Basic Farm Workshops

**Course Objectives**

1. To understand the principles of water supply system designs; calculation on instruments, operation, maintenance and cost estimation.
2. To be able to calculate the areas and instruments for installation; and to operate, maintain and repair water supply systems for agriculture constructions in consideration of the impacts on environment and ecosystem.
3. To promote a positive attitude toward a career of agriculture and good habits to work with responsibility, carefulness, economy, safety, intelligence and patience.

**Course Standards**

1. Understand the principles and steps of water supply system designs.
2. Calculate areas, instruments for installation and cost estimation of water supply systems.
3. Install water supply systems for agriculture in consideration of the impacts of environment and ecosystem.
4. Operate water supply systems for agriculture in consideration of the impacts on environment and ecosystem.
5. Maintain and repair water supply systems for agriculture.

**Course Descriptions**

Principles and steps of water supply system designs; instruments for installation; steps of water supply system installation; calculation of areas and system installation; calculation of forces; power sources; water supply system installation, operation, maintenance, repair and cost estimation.

**2501-2413 Soil Management 2 (3)****Course Objectives**

1. To understand principles of soil and soil management.
2. To be able to manage soil for agriculture systematically in consideration of the impacts on environment and ecosystem.
3. To promote a positive attitude toward a career of agriculture and good habits to work with responsibility, carefulness, economy, safety, intelligence and patience.



**2501-2415 Introduction to Industrial Machines 3 (4)**  
 Pre requisite: 2501-1007 Basic Farm Workshops

**Course Objectives**

1. To understand industrial machine principles, selection, operation and maintenance.
2. To be able to select, operate, maintain the industrial machines in consideration of the impacts on energy and environment.
3. To promote a positive attitude toward a career of agriculture and good habits to work with responsibility, carefulness, economy, safety, intelligence and patience.

**Course Standards**

1. Understand industrial machine principles, operation, and maintenance.
2. Select suitable industrial machines for works.
3. Operate industrial machines in consideration of safety, economy and the impacts on environment.
4. Maintain and repair the industrial machines and accessories.

**Course Descriptions**

Industrial machine types, operation and maintenance; power sources; crop processing machines; packing machines; handling systems in industry.

**2501-2416 Farm Equipment Production and Repair 3 (4)**

**Course Objectives**

1. To understand the principles of farm equipment production and repair.
2. To be able to produce, test and repair farm equipments.
3. To promote a positive attitude toward a career of agriculture and good habits to work with responsibility, carefulness, economy, safety, intelligence and patience.

**Course Standards**

1. Understand the principles of farm equipment production and repair.
2. Design suitable farm equipments for works.
3. Prepare materials, spare parts and instruments in farm equipment production and repair.
4. Produce farm equipments according to the principles and processes.
5. Test equipments upon the standards.
6. Repair equipments.

**Course Descriptions**

Types and materials for farm equipment production; design; material and spare part determination; farm equipment production, testing and repair.

**2501-2450-99 Production/Service Project (Farm Mechanic field) 2 (6)**

Pre requisite: 2501-1007 Basic Farm Workshops

**Course Objectives**

1. To be able to practice farm mechanic works systematically by planning, operating and solving the problems for earning and distributing.
2. To promote a positive attitude and good habits toward vocational agriculture development with creative thinking, responsibility, neatness, carefulness, safety, intelligence and patience.

**Course Standards**

1. Plan the production/service project in the field of farm mechanics.
2. Prepare production/service upon the projects and work plans.
3. Produce/service farm mechanic works upon the project plans.
4. Manage products for services and distributing upon the project plans.
5. Conclude the results of operation and cost expenses.

**Course Descriptions**

Analysis of marketing conditions and concerned information, planning and proposed production/service projects; practices in production/service and solving the problems; production and distribution management/service estimation, report writing and accounting.

**2501-44... Farm mechanic work... \* (\*)**

Pre requisite: 2501-1007 Basic Farm Workshops

**Course Objectives**

1. To understand the principles of production/service in farm mechanic works.
2. To be able to practice systematically in production/service by planning, operation and evaluation; and to be able to select and use appropriate technology.
3. To promote a positive attitude and good habits toward vocational agriculture development with creative thinking, responsibility, neatness, carefulness, safety, intelligence and patience.

**Course Standards**

1. Understand the principles of farm mechanic production/service works.
2. Plan farm mechanic production/service works.
3. Produce/service farm mechanic works.
4. Improve and solve the problems of farm mechanic production/service works.
5. Manage products/service upon the principles and processes.

**Course Descriptions**

Farm mechanic production/service in the workplaces/farms/academic sources; farm mechanic production/service work planning, performing, developing and solving the problems; product management and distribution; report writing and accounting.



## **General Agriculture Specialization**

<b>2501-2501</b>	<b>Integrated Farming System</b>	<b>3 (6)</b>
Pre requisite:	2501-1004 Principles of Plant Science 2501-1005 Principles of Animal Husbandry	

### **Course Objectives**

1. To understand the principles of integrated farming system.
2. To be able to analyze, plan and integrated farming system management based on the principles and processes in consideration of the impacts on environment.
3. To promote a positive attitude toward a career of agriculture and good habits to work with responsibility, carefulness, intelligence and patience.

### **Course Standards**

1. Understand the principles of plan and manage integrated farming system.
2. Prepare integrated farming system based on suitability of area and environment.
3. Manage integrated farming system based on the principles and processes in consideration of use resource to cover.
4. Work with carefulness followed by planning which concern of environmental conservation.
5. Manage products by harvesting and post harvest management based on the principles and processes.
6. Records credits and debit of selling products system account of management and sale products.

### **Course Descriptions**

Study and practice about survey, area analyze and products demand of market, importance and format of integrated farming system, integrated farming system management plan, operate project and case study of integrated farming system, management and solve problem in job, record and account.

<b>2501-2502</b>	<b>Farm Management</b>	<b>2 (3)</b>
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### **Course Objectives**

1. To understand the principles of farm management, marketing, saling and record farm account.
2. To be able to operate farm management based on the principles and processes by conduction technology to solve problem own career.
3. To promote a positive attitude toward a career of agriculture and good habits to work with responsibility, carefulness, intelligence, economize, creativity and patience.

**Course Standards**

1. Understand the principles and processes of farm management.
2. Prepare product factor and farm management based on market need and area.
3. Manage farm based on the principles and processes by consideration of resource using with usefulness.
4. Record farm account based on the principles.
5. Evaluate of farm based on the principle.

**Course Descriptions**

Study and practice about data analysis about farm, choose factor in farm, market way of agriculture goods, middleman in market, cost of market, movement and tendency of agriculture goods price, market strategy, sale, record and farm account, asset appraise and products price, conclude, evaluate of farm.

**2501-45... Agricultural work... \* (\*)**  
 Pre requisite: 2501-1004 Principles of Plant Science  
 2501-1005 Principles of Animal Husbandry

**Course Objectives**

1. To understand the principles of production/service in agricultural works.
2. To be able to practice systematically in production/service by planning, operation and evaluation; and to be able to select and use appropriate technology.
3. To promote a positive attitude and good habits toward vocational agriculture development with creative thinking, responsibility, neatness, carefulness, safety, intelligence and patience.

**Course Standards**

1. Understand the principles of agricultural production/service works.
2. Plan agricultural production/service works.
3. Produce/service agricultural works.
4. Improve and solve the problems of agricultural production/service works.
5. Manage products/service upon the principles and processes.

**Course Descriptions**

Study and practice about crop production ; animal production ; agro-industry production / transmute and/or farm mechanic in the workplaces /farm ; planning , production and service operation; improving and correcting production and service problem; product management and selling; recording, reporting and accounting.

# Course Description

## Vocational Courses : Project

**2501-5001 Project**

**4(\*)**

### Course Objectives

1. To understand the principles and processes of planning project operation.
2. To be able to create knowledge, skill and experience in working and developing in their career based on the principles and processes.
3. To gain ethics and responsibility, work habit, in conducting project.

### Course Standards

1. Understand the principles and processes of project planning.
2. Planing project by type of career.
3. Conducting project follow by plan and processes.
4. Improved, solving problems of project by principles and processes.
5. Conclusion and report project result.

### Course Descriptions

Operating about production / invention with an application vocational technology for the development of a career at least one project follow by project proposal, evaluation, conclusion, improve and solve the problem and report.

# **appendix**

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**2002 Curriculum for Certificate of Vocational Education  
(Revision Edition 2003)**

**Area of Study: Agriculture**

## Occupation Characteristics

### Plant Science

- Careers :**
1. Producer of plants for sale such as flowering plants, ornamental plants, vegetables, fruit trees, perennial trees, annual crops, herbs and mushrooms.
  2. Plant servers for business such as servicing on arranging and taking care of ornamental gardens and orchards, propagating plants, selling seedlings and agricultural equipment.
  3. Officers in government and private sectors at such places as plant experimental stations, parks, and tourist attractions.

- Knowledge :**
1. Principles of plant production.
    - 1.1 Production plant.
    - 1.2 Planting management.
    - 1.3 Nurturing.
    - 1.4 Productivity techniques.
    - 1.5 Post harvest management.
  2. Principles of plant services.
    - 2.1 Plant planning and servicing.
    - 2.2 Expense calculating, price fixing and presenting.
  3. Work safety.
  4. Conservation of natural resources, energy and environment in plant production and services.
  5. Recording and basic accounting.

- Skill :**
1. Plant production planning.
  2. Equipment and tool selecting and maintaining.
  3. Area preparing.
  4. Planting.
  5. Nurturing (watering and giving fertilizer), preventing and eliminating plant pests, pruning and shaping.
  6. Propagating.
  7. Harvesting and postharvest managing.
  8. Yield increasing and selling.

- Traits :**
1. Punctuality.
  2. Diligence and endurance.
  3. Responsibility.
  4. Discipline.
  5. Human relationship and co-operation.
  6. Honesty.
  7. Self-development and knowledge seeking.

## Occupation Characteristics

### Animal Science

- Careers :**
1. Producer of farm animals for sale such as pigs, layer chickens and broiler chickens.
  2. Animal husbandry assistants on government or private farms.
  3. Sellers of farm products such as animal breeds, eggs, etc.
  4. Sellers of animal raising products such as animal feeds animal raising equipment and tools, etc.
- Knowledge :**
1. Principles of raising poultry, small animals, and large animals.
    - 1.1 Raising plans.
    - 1.2 House and equipment preparation.
    - 1.3 Animal breeds and selection.
    - 1.4 Animal feeds and feeding.
    - 1.5 Raising.
    - 1.6 Sanitation.
    - 1.7 Farm work recording.
  2. Management of poultry, large animals and small animals.
    - 2.1 Slaughtering, dissecting, and keeping.
    - 2.2 Selling of animals and animal products
  3. Work safety.
  4. Conservation of natural resources, energy and environment in animal production and services.
  5. Recording and basic accounting.
- Skill :**
1. Animal feed mixing.
  2. House preparing.
  3. Equipment and tool selecting and maintaining.
  4. Breed selecting.
  5. Disease and parasite preventing.
  6. Raising animals in different periods.
  7. Animal biodata recording.
  8. Yield increasing and selling.
  9. Farm by-product applying.
- Traits :**
1. Punctuality.
  2. Responsibility.
  3. Honesty.
  4. Diligence and endurance.
  5. Human relationship and co-operation.
  6. Discipline.
  7. Self-development and knowledge seeking.

## Occupation Characteristics

### Agricultural Industry

- Careers :**
1. Officers in agro-industrial workplaces such as plant product factories, animal product factories, dairy product factories, ect.
  2. Entrepreneurs in agricultural product processing.
- Knowledge :**
1. Principles of basic agro-industry.
  2. Production process in agro-industry system.
  3. Packaging and selling.
  4. Work safety.
  5. Conservation of natural resources, energy, and environment in agro-industry.
  6. Recording and basic accounting.
- Skill :**
1. Production planning.
  2. Equipment and tool selecting and maintaining.
  3. Technology using in product manufacturing and packaging.
  4. Raw material selecting.
  5. Product manufacturing.
  6. Product quality controlling.
  7. Product value adding and selling.
  8. Sanitation, energy and environment managing
- Traits :**
1. Discipline.
  2. Diligence and endurance
  3. Honesty
  4. Punctuality.
  5. Responsibility.
  6. Delicacy, cleanliness, care and work safety.
  7. Human relationship and co-operation.
  8. Enthusiasm and working happiness.
  9. Self-development and knowledge seeking.

## Occupation Characteristics

### Farm Mechanics

- Careers :**
1. Farm technicians who build, maintain, repair, and service on basic farm building, electricity, agricultural irrigation, farm machines, tractors, and power generating engines.
  2. Officers in government and private sectors.
- Knowledge :**
1. Principles power generating engines, tractors and farm machines.
  2. Principles of using maintaining, and repairing power generating engines, tractors, and farm machines.
  3. Principles of electricity building and irrigation works.
  4. Work safety.
  5. Conservation of natural resources, energy, and environment in farm mechanics.
  6. Recording and basic accounting.
- Skill :**
1. Using, maintaining and repairing power generating engines, tractors, and farm buildings, and agricultural irrigation.
  2. Operating electricity, farm buildings, and agricultural irrigation.
- Traits :**
1. Discipline.
  2. Diligence and endurance.
  3. Responsibility.
  4. Punctuality.
  5. Human relationship and co-operation.
  6. Care and work safety.
  7. Self-development and knowledge seeking.



## **Role and Responsibilities of the Office of the Vocation Education Commission**

The Office of the Vocation Education Commission has an important role in provide and promoting Vocational Education and Training based on the quaility and excellence of vocational skills. Role and Responsibilities of the Office of the Vocation Education Commission are to :

1. prepare a proposal of policy, development plan , vocational education curriculum and standards in every level.
2. operate and coordinate vocational education standards.
3. identify the criteria, budget allocation and management of the resources of vocational education.
4. develop vocational education personnel.
5. promote and coordinate the management of vocational education and training both in the private sector and government, and to identify the criteria and cooperative models with other organizations and workplaces.
6. monitor, evaluate and make report on vocational education management both in government units and the private sector.
7. set up the system , promote and coordinate the information and technology network, and the use of information and communication technology in the management of vocational education and training.
8. carry out administrative work of the Vocational Education Commission and any other work assigned by the Vocational Education Commission.
9. carry out work sanctioned by law as being within the role and responsibilities of the Office of the the Vocational Education Commission or work assigned by the Minister or the Cabinet.

Based on Ministry Regulation B.E. 2546 , the management structure of the Office of the the Vocational Education Commission is as follows :

1. Bureau of General Administration
2. Bureau of Cooperation
3. Bureau of Monitoring and Evaluation
4. Bureau of Policy and Planning
5. Bureau of Personnel Competency Development
6. Bureau of Standards and Qualifications
7. Bureau of Reserch and Development

## **Programmes Offered**

### **Types of Courses**

1. Industry
2. Business Administration
3. Arts and Crafts
4. Home Economics
5. Agriculture
6. Fishery
7. Tourism Industry
8. Textile Industrial
9. Information Technology and Communication

## Salutation

This book is prepared by Vocational Education Standards and Qualifications Bureau, Vocational Education Commission, Ministry of Education, to disseminate the information of the curriculum of Vocational Education Commission. We would like to thank all teachers and officers that helped make this book possible.

For further information and requires, please contact:

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Vocational Education Commission,  
Ministry of education,  
Bangkok 10300

Tel. 0-2281-5555

Fax. 0-2627-1210

**Agricultural and Fishery Institution Statistic  
under Office of the Vocational Education Commission**

	Tel.	Fax.
<b>Northern Region I</b>		
1. Chiang Mai Agricultural and Technology College	0-5331-1392	0-5331-1994
2. Lamphun Agricultural and Technology College	0-5397-6223	0-5397-2255
<b>Northern Region II</b>		
3. Phrae Agricultural and Technology College	0-5461-3313	0-5461-3340
<b>Northern Region III</b>		
4. Chiang Rai Agricultural and Technology College	0-5367-4350	0-5367-4350
5. Phayao Agricultural and Technology College	0-5448-1607	0-5448-3054
<b>Northern Region IV</b>		
6. Sukhothai Agricultural and Technology College	0-5564-1076	0-5564-1080
7. Tak Agricultural and Technology College	0-5551-2834	0-5551-2835
8. Kamphaeng Phet Agricultural and Technology College	0-5571-2264	0-5573-6244
<b>Northern Region V</b>		
9. Phichit Agricultural and Technology College	0-5669-1153	0-5669-1151
10. Phetchabun Agricultural and Technology College	0-5672-1595	0-5672-3047
<b>North Eastern Region I</b>		
11. Khon Kaen Agricultural and Technology College	0-4328-9193	0-4328-9194
<b>North Eastern Region II</b>		
12. Udon Thani Agricultural and Technology College	0-4221-8022	0-4226-6103
<b>North Eastern Region III</b>		
-		
<b>North Eastern Region IV</b>		
13. Maha Sarakham Agricultural and Technology College	0-4374-6284	0-4374-6285
14. Roi Et Agricultural and Technology College	0-4356-9117	0-4356-9118
<b>North Eastern Region V</b>		
15. Yasothon Agricultural and Technology College	0-4571-1090	0-4571-2740
16. Ubon Ratchatani Agricultural and Technology College	0-4534-4124	0-4534-4125

	Tel.	Fax.
<b>North Eastern Region VI</b>		
17. Buri Ram Agricultural and Technology College	0-4461-1159	0-4461-1899
18. Si Sa Ket Agricultural and Technology College	0-4561-2934	0-4561-3438
<b>North Eastern Region VII</b>		
19. Nakhon Ratchasima Agricultural and Technology College	0-4432-5495	0-4432-5494
20. Chaiyaphum Agricultural and Technology College	0-4481-1160	0-4481-1583
<b>Southern Region I</b>		
21. Pattani Fishery College	0-7333-6183	0-7343-7506
<b>Southern Region II</b>		
22. Satun Agricultural and Technology College	0-7479-1013	0-7479-1096
23. Phatthalung Agricultural and Technology College	0-7460-2348	0-7461-2220
24. Songkhla Agricultural and Technology College	0-7438-8477	0-7438-9118
25. Tinsulanon Fishery College	0-7433-3642	0-7433-3525
<b>Southern Region III</b>		
26. Ranong Agricultural and Technology College	0-7782-1669	0-7782-1488
27. Chumphon Agricultural and Technology College	0-7753-6215	0-7753-6214
28. Chumphon Fishery College	0-7750-5734	0-7750-5735
29. Surat Thani Agricultural and Technology College	0-7739-9263	0-7739-9079
<b>Southern Region IV</b>		
30. Nakhon Si Thammarat Agricultural and Technology College	0-7548-6314	0-7548-6314
31. Trang Agricultural and Technology College	0-7528-4153	0-7528-4152
<b>Southern Region V</b>		
32. Krabi Agricultural and Technology College	0-7562-1645	0-7562-1645
33. Phangnga Agricultural and Technology College	0-7649-6451	0-7649-6528
<b>Central Region I</b>		
34. Phetchaburi Agricultural and Technology College	0-3247-1611	0-3247-1611
35. Ratchaburi Agricultural and Technology College	0-3223-3300	0-3235-9794
<b>Central Region II</b>		
36. Chainat Agricultural and Technology College	0-5643-1511	0-5643-1512
37. Uthai Thani Agricultural and Technology College	0-5651-1146	0-5651-3630
38. Nakhon Sawan Agricultural and Technology College	0-5635-5420	0-5635-5420
<b>Central Region III</b>		
39. Sing Buri Agricultural and Technology College	0-3651-1360	0-3652-0497
40. Bang Sai Agricultural and Technology College	0-3536-6306	0-3536-6305

	Tel.	Fax.
<b>Central Region IV</b>		
41. Lopburi Agricultural and Technology College	0-3663-9312	0-3649-1370
<b>Central Region V</b>		
42. Kanchanaburi Agricultural and Technology College	0-3451-2448	0-3451-7482
43. Supanburi Agricultural and Technology College	0-3559-5056	0-3559-5055
<b>Central Region VI</b>		
-		
<b>Eastern Region I</b>		
44. Sa Kaew Agricultural and Technology College	0-3723-1793	0-3723-1296
<b>Eastern Region II</b>		
45. Chachoengsao Agricultural and Technology College	0-3859-9122	0-3859-9010
46. Chonburi Agricultural and Technology College	0-3823-8290	0-3823-7053
<b>Eastern Region III</b>		
-		
<b>Bangkok Metropolis I</b>		
-		
<b>Bangkok Metropolis II</b>		
47. Agricultural Engineering Training Centre	0-2567-0784	0-2567-1224