



Republic of the Philippines
OFFICE OF THE PRESIDENT
COMMISSION ON HIGHER EDUCATION

CHED MEMORANDUM ORDER (CMO)

No.: 48
Series of 2007

SUBJECT: REVISED MODEL EMBEDMENT OF TECHNICAL AND VOCATIONAL EDUCATION AND TRAINING (TVET) TRAINING REGULATIONS (TRs) IN THE BACHELOR OF AGRICULTURAL TECHNOLOGY (BAT) PROGRAM

In accordance with the pertinent provisions of Republic Act (RA) No. 7722 otherwise known as the "Higher Education Act of 1994," and by virtue of Resolution No. 432-2007 of the Commission En Banc dated June 25, 2007, the revised model embedment of Technical and Vocational Education and Training (TVET) Training Regulations (TRs) in the Bachelor Of Agricultural Technology (BAT) program is hereby adopted and promulgated by the Commission.

ARTICLE I - AUTHORIZATION

The ladderized BAT program shall be operated only by institutions of higher learning with proper authority granted by the Commission on Higher Education (CHED) and by the respective Governing Boards in the case of chartered State Universities and Colleges (SUCs), Local Colleges and Universities (LCUs) and upon issuance of Certificate of Program Recognition (CoPR) by the Technical Education Skills Development Authority (TESDA). Said institutions shall submit application with full documentation in compliance with the requirements of this CMO and CMO No. 8 s. 2007, otherwise known as "Amendments to CMO No. 38 s. 2006 Entitled Procedures in the Processing of Applications for the Grant of Authority to operate Ladderized Programs as part of the Implementation of Executive Order No. 358"

ARTICLE II -- THE REVISED MODEL CURRICULUM

The revised model curriculum shall be adopted as the minimum requirement for the completion of the ladderized BAT program. TESDA Training Regulations embedded in this curriculum are as follows:

1. Agricultural Crops Production NC I
2. Horticulture NC II
3. Animal Production NC II
4. Slaughtering Operations NCII
5. Horticulture NC III
6. Agricultural Crops Production NC III

REVISED MODEL EMBEDMENT OF TECHNICAL AND VOCATIONAL EDUCATION AND TRAINING (TVET) TRAINING REGULATIONS (TRs) IN THE BACHELOR OF AGRICULTURAL TECHNOLOGY (BAT) PROGRAM

- Title of Ladderized Program: Bachelor of Agricultural Technology (BAT)
 TVET qualifications covered by the Ladderized program:
1. Agricultural Crops NC I
 2. Horticulture NC II
 3. Animal Production NC II
 4. Slaughtering Operations NCII
 5. Horticulture NC III
 6. Agricultural Crops Production NC III

First Year, 1st Semester

Description of Subjects	Higher Education Subjects			Hrs. per semester	Prerequisites	Units of Competency	TVET Modules		Nominal Duration	Remarks
	Lec (Hrs)	Lab (Hrs)	Units				Module Title			
English 1	3	0	3	54		<ul style="list-style-type: none"> • Receive and respond to workplace communication 	<ul style="list-style-type: none"> • Receiving and responding to workplace communication 			
Filipino 1	3	0	3	54		<ul style="list-style-type: none"> • Perform estimation and basic calculation • Use mathematical concepts and techniques 	<ul style="list-style-type: none"> • Performing estimation and basic calculation • Using mathematical concepts and techniques 			
Mathematics for Agriculture	3	0	3	54		<ul style="list-style-type: none"> • Prepare land for agricultural crop production • Implement plant nutrition programs • Prepare and apply chemicals • Control weeds • Establish agronomic crops • Undertake agronomic maintenance activities • Undertake agronomic crop harvesting 	<ul style="list-style-type: none"> • Preparing land for agricultural crop production • Implementing plant nutrition programs • Preparing and apply chemicals • Controlling weeds • Establishing agronomic crops • Undertaking agronomic maintenance activities • Undertaking agronomic crop harvesting 			
Agricultural Biology	2	3	3	90		<ul style="list-style-type: none"> • Prepare land for agricultural crop production • Implement plant nutrition programs • Prepare and apply chemicals • Control weeds • Establish agronomic crops • Undertake agronomic maintenance activities • Undertake agronomic crop harvesting 	<ul style="list-style-type: none"> • Raising poultry 			
Field Crops and Cereal Production	2	3	3	90		<ul style="list-style-type: none"> • Prepare land for agricultural crop production • Implement plant nutrition programs • Prepare and apply chemicals • Control weeds • Establish agronomic crops • Undertake agronomic maintenance activities • Undertake agronomic crop harvesting 	<ul style="list-style-type: none"> • Raising poultry 			
Poultry Production	2	3	3	90		<ul style="list-style-type: none"> • Raising poultry 				
P.E.	2		(2)	36						
NSTP	3		(3)							
TOTAL			23	468						

First Year, 2nd Semester

Higher Education Subjects					TVET Modules		Nominal Duration	Remarks
Description of Subjects	Lec	Lab	Units	Hrs. per semester	Prerequisites	Units of Competency		
English II	3 (Hrs)	0 (Hrs)	3	54		<ul style="list-style-type: none"> Participate in workplace communication Lead workplace communication 	<ul style="list-style-type: none"> Participating in workplace communication Leading workplace communication 	
Swine Production Management	2	3	3	90		<ul style="list-style-type: none"> Raise swine 	<ul style="list-style-type: none"> Raising swine 	
Farm Physics	2	3	3	90				
Soil Management and Conservation	2	3	3	90				
Agricultural Mechanics I	2	3	3	90		<ul style="list-style-type: none"> Use farm tools and equipment 	<ul style="list-style-type: none"> Using farm tools and equipment 	
Horticultural Crops Production Management	2	3	3	90		<ul style="list-style-type: none"> Conduct pre-horticultural farm operations Produce vegetables Produce fruit-bearing trees Prepare land for agricultural crop production Implement plant nutrition programs Prepare and apply chemicals Control weeds Establish horticultural crops Coordinate horticultural maintenance program Coordinate horticultural crop harvesting 	<ul style="list-style-type: none"> Conducting pre-horticultural farm operations Producing vegetables Producing fruit bearing trees Preparing land for agricultural crop production Implementing plant nutrition programs Preparing and applying chemicals Controlling weeds Establishing horticultural crops Coordinating horticultural crop harvesting 	
P.E.	2		(2)	36				
NSTP	3		(3)					
TOTAL			23	540				

First Year, Summer

Higher Education Subjects					TVET Modules			Nominal Duration	Remarks
Description of Subjects	Lec (Hrs)	Lab (Hrs)	Units	Hrs per semester	Prerequisites	Units of Competency	Module Title		
Social Science I	3		3	54		<ul style="list-style-type: none"> Work with others Demonstrate work values Work in a team environment Practice career professionalism Lead small teams Develop and practice negotiation skills Solve problems related to work activities 	<ul style="list-style-type: none"> Working with others Demonstrating work values Working in a team environment Practicing career professionalism Lead small teams Developing and practicing negotiation Solving problems related to work activities 		
Irrigation and Drainage	2	3	3	90		<ul style="list-style-type: none"> Support irrigation work 	<ul style="list-style-type: none"> Support irrigation work 		
TOTAL			6	144					

Note: At this point, Agricultural Crops Production National Certificate (NC) I will be issued by TESDA upon passing the certification process.

Second Year, 1st Semester

Higher Education Subjects						TVET Modules		Nominal Duration	Remarks
Description of Subjects	Lec	Lab	Units	No. of Hrs. per semester	Prerequisites	Units of Competency	Module Title		
	(Hrs)	(Hrs)							
Postharvest Technology I	2	3	3	90		<ul style="list-style-type: none"> Perform post harvest operations of major tropical fruits Perform post harvest operations of major lowland and semi-temperate vegetables 	<ul style="list-style-type: none"> Performing post harvest operations of major tropical fruits Performing post harvest operations of major lowland and semi-temperate vegetables 		
Ruminant Production Mgt.	2	3	3	90		<ul style="list-style-type: none"> Raise small ruminants Raise large ruminants 	<ul style="list-style-type: none"> Raising small ruminants Raising large ruminants 		
Farm Business Management	2	3	3	90					
Meat Technology	2	3	3	90		<u>CATTLE / OX / HOG / PIG / SWINE</u> <ul style="list-style-type: none"> Stun, shackle and lift animal Slick and bleed animal Perform cradle processes Flay cattle completely Eviscerate animal Split and quarter carcass Grade, label and stamp carcass Wash, trim and weigh carcass 	<u>CATTLE / OX / HOG / PIG / SWINE</u> <ul style="list-style-type: none"> Stun, shackle and lift animal Slick and bleed animal Perform cradle processes Flay cattle completely Eviscerate animal Split and quarter carcass Grade, label and stamp carcass Wash, trim and weigh carcass 		
Food processing of Animal and Sea Food Products	2	3	3	90		<ul style="list-style-type: none"> Perform cradle processes Flay cattle completely Eviscerate animal Split and quarter carcass Grade, label and stamp carcass Wash, trim and weigh carcass 	<ul style="list-style-type: none"> Perform cradle processes Flay cattle completely Eviscerate animal Split and quarter carcass Grade, label and stamp carcass Wash, trim and weigh carcass 		
Food Processing and Agricultural products	2	3	3	90		<ul style="list-style-type: none"> Split and quarter carcass Grade, label and stamp carcass Wash, trim and weigh carcass 	<ul style="list-style-type: none"> Split and quarter carcass Grade, label and stamp carcass Wash, trim and weigh carcass 		
P.E.	2		(2)	36					
TOTAL			20	540					

- Note:
1. Food processing of Animal and Sea Food Products should include slaughtering animal following Dhablha Halal procedures
 2. At this point, Horticulture NC II and Animal Production NC II will be issued by TESDA upon passing the certification process.

Second Year, 2nd Semester

Description of Subjects	Higher Education Subjects				TVET Modules		Prerequisites	Units of Competency	Module Title	Nominal Duration	Remarks
	Lec	Lab	Units	No. of Hrs. per semester							
Practicum in Agriculture	(Hrs)	(Hrs)	13	450							
Quality Evaluation and Standardization	2	3	3	90							
P.E.	2		(2)	36							
TOTAL			18	576							

Note: At this point, Slaughtering Operations NCII will be issued by TESDA upon passing the certification process.

Third Year, 1st Semester

Description of Subjects	Higher Education Subjects			No. of Hrs. per semester	Prerequisites	Units of Competency	TVET Modules		Nominal Duration	Remarks
	Lec	Lab	Units				Module Title			
	(Hrs)	(Hrs)								
Filipino II	3	0	3	54						
Philippine and Asian Agriculture	3		3	54						
Computer education	2	3	3	90		<ul style="list-style-type: none"> Use relevant technologies 	<ul style="list-style-type: none"> Using relevant technology 			
Agricultural Mechanics II	2	3	3	90						
Postharvest handling of perishable crops	2	3	3	90		<ul style="list-style-type: none"> Implement a post-harvest program 	<ul style="list-style-type: none"> Implementing a post-harvest program 			
Postharvest handling of durable and plantation crops	2	3	3	90		<ul style="list-style-type: none"> Implement a post-harvest program Implement vertebrate pest control programs Save, prepare and store agricultural seeds. 	<ul style="list-style-type: none"> Implementing a post-harvest program Implementing vertebrate pest control programs Saving, preparing and storing agricultural seeds. 			
TOTAL			18	432						

Note: At this point, Agricultural Crops Production NC III will be issued by TESDA upon passing the certification process.

Third Year, 2nd Semester

Higher Education Subjects						TVET Modules			
Description of Subjects	Lec	Lab	Units	No. of Hrs. per semester	Prerequisites	Units of Competency	Module Title	Nominal Duration	Remarks
English IV	3	0	3	54					
Rizal and Philippine Development	3	0	3	54					
Agricultural Marketing	2	3	3	90					
Social Science II	3	0	3	54					
Plant propagation and nursery mgt.	2	3	3	90		<ul style="list-style-type: none"> Undertake field budding and grafting Undertake propagation activities 	<ul style="list-style-type: none"> Undertaking field budding and grafting Undertaking propagation activities 		
Course option (1)	2	3	3	90					
TOTAL			18	432					

Note: At this point, Horticulture NC III will be issued by TESDA upon passing the certification process.

Third Year, Summer

Higher Education Subjects					TVET Modules				
Description of Subjects	Lec	Lab	Units	No. of hrs. per semester	Prerequisites	Units of Competency	Module Title	Nominal Duration	Remarks
Course concentration option (2)		(Hrs)		6	180				
Summer		(Hrs)							
TOTAL			6	180					

Fourth Year, 1st Semester

Higher Education Subjects				TVET Modules		Prerequisites	Units of Competency	Module Title	Nominal Duration	Remarks
Description of Subjects	Lec	Lab	Units	No. of Hrs. per semester						
	(Hrs)	(Hrs)								
English III	3	0	3	54						
Practical Statistics	3	0	3	54						
Crop and Animal Improvement	2	3	3	90						
Agricultural business finance	3	0	3	54						
Course concentration option (5)			6	180						
TOTAL			18	504						

Fourth Year, 2nd Semester

Higher Education Subjects				TVET Modules		Prerequisites	Units of Competency	Module Title	Nominal Duration	Remarks
Description of Subjects	Lec	Lab	Units	No. of Hrs. per semester						
	(Hrs)	(Hrs)								
Occupational Internship			18							
TOTAL			18							

The lists of Identified TVET Qualifications in BAT program are as follows:

1. Agricultural Crops Production NC I

Year/Sem.	Subject	Unit of Competency	Module Title
1 st Yr. 1 st Sem.	English 1	Receive and respond to workplace communication	Receiving and responding to workplace communication
1 st Yr. 1 st Sem.	Mathematics for Agriculture	Perform estimation and basic calculation	Performing estimation and basic calculation
1 st Yr. 2 nd Sem.	Agricultural Mechanics 1	Use farm tools and equipment	Using farm tools and equipment
1 st Yr. summer	Social Science 1	Work with others Demonstrate work values	Working with others Demonstrating work values
1 st Yr. summer	Irrigation and drainage	Support irrigation work	Supporting irrigation work

2. Horticulture NC II

Year/Sem.	Subject	Unit of Competency	Module Title
1 st Yr. 2 nd sem.	English 2	Participate in workplace communication	Participating in workplace communication
1 st Yr. 1 st Sem.	Mathematics for Agriculture	Perform estimation and basic calculation	Performing estimation and basic calculation
1 st Yr. 2 nd sem	Horticultural crops production mgt.	Conduct pre-horticultural farm operations Produce vegetables Produce fruit-bearing trees	Conducting pre-horticultural farm operations Producing vegetables Producing fruit-bearing trees
1 st Yr. 2 nd Sem.	Agricultural Mechanics 1	Use farm tools and equipment	Using farm tools and equipment
1 st Yr. summer	Social Science 1	Work in a team environment Practice career professionalism	Working in a team environment Practicing career professionalism
2 nd Yr. First sem.	Postharvest technology I	Perform post harvest operations of major tropical fruits Perform post harvest operations of major lowland and semi-temperate vegetable crops	Performing post harvest operations of major tropical fruits Performing post harvest operations of major lowland and semi-temperate vegetable crops

3. Animal Production NC II

Year/Sem.	Subject	Unit of Competency	Module Title
1 st Yr. 2 nd sem.	English 2	Participate in workplace communication	Participating in workplace communication
1 st Yr. 1 st Sem.	Mathematics for Agriculture	Perform estimation and basic calculation	Performing estimation and basic calculation
1 st Yr. 1 st sem	Poultry Production and Management	Raise poultry	Raising poultry
1 st Yr. 2 nd sem.	Swine Production Mgt.	Raise swine	Raising swine
1 st Yr. 2 nd Sem.	Agricultural Mechanics 1	Use farm tools and equipment	Using farm tools and equipment
1 st Yr. summer	Social Science 1	Work in a team environment Practice career professionalism	Working in a team environment Practicing career professionalism
2 nd Yr. 1 st Sem.	Ruminant Production Mgt.	Raise small ruminants Raise large ruminants	Raising small ruminants Raising large ruminants

4. Slaughtering Operations NCII

Year/Sem.	Subject	Unit of Competency	Module Title
2 nd Yr. 1 st Sem	Meat Technology	Cattle / Ox / Hog / Pig / Swine Stun, shackle and lift animal	Cattle / Ox / Hog / Pig / Swine Stun, shackle and lift animal
2 nd Yr. 1 st Sem	Food processing of Animal and Sea Food Products*	Stick and bleed animal Perform cradle processes Flay cattle completely Eviscerate animal	Stick and bleed animal Perform cradle processes Flay cattle completely Eviscerate animal
2 nd Yr. 1 st Sem	Food Processing and Agricultural products	Split and quarter carcass Grade, label and stamp carcass	Split and quarter carcass Grade, label and stamp carcass
2 nd Yr. 2 nd sem	Quality Evaluation and Standardization	Wash, trim and weigh carcass	Wash, trim and weigh carcass

*Should include slaughtering animal following Dhabiha Halal procedures

5. Horticulture NC III

Year/Sem.	Subject	Unit of Competency	Module Title
1 st Yr. 2 nd sem	Horticultural crops production mgt.	Prepare land for agricultural crop production Implement plant nutrition programs Prepare and apply chemicals Control weeds Establish horticultural crops Coordinate horticultural maintenance program Coordinate horticultural crop harvesting	Preparing land for agricultural crop production Implementing plant nutrition programs Preparing and apply chemicals Controlling weeds Establishing horticultural crops Coordinating horticultural maintenance program Coordinating horticultural crop harvesting
1 st Yr. 2 nd sem.	English 2	Lead workplace communication	Leading workplace communication
1 st Yr. 1 st Sem.	Mathematics for Agriculture	Use mathematical concepts and techniques Perform estimation and calculations	Using mathematical concepts and techniques Performing estimation and calculations
1 st Yr. Summer	Soc Science 1	Leads small teams Develop and practice negotiation skills Solve problems to related to work activities	Leading small teams Developing and practice negotiation skills Solving problems to related to work activities
3 rd Yr. summer	Computer education	Use relevant technologies	Using relevant technologies
3 rd Yr. 1 st sem.	Post Harvest handling of perishables	Implement a post-harvest program	Implementing a post-harvest program
3 rd Yr. 2 nd sem.	Plant propagation and nursery mgt.	Undertake field budding and grafting Undertake propagation activities	Undertaking field budding and grafting Undertaking propagation activities

6. Agricultural Crops Production NC III

Year/Sem.	Subject	Unit of Competency	Module Title
1 st Yr. First sem	Field Crops and Cereal production	Prepare land for agricultural crop production Implement plant nutrition programs Prepare and apply chemicals Control weeds Establish agronomic crops Undertake agronomic maintenance activities Undertake agronomic crop	Preparing land for agricultural crop production Implementing plant nutrition programs Preparing and apply chemicals Controlling weeds Establishing agronomic crops Undertaking

		harvesting activities	agronomic maintenance activities Undertaking agronomic crop harvesting activities
1 st Yr. 2 nd sem.	English 2	Lead workplace communication	Leading workplace communication
1 st Yr. 1 st Sem.	Mathematics for Agriculture	Use mathematical concepts and techniques Perform estimation and calculations	Using mathematical concepts and techniques Performing estimation and calculations
1 st Yr. Summer	Soc Science 1	Leads small teams Develop and practice negotiation skills Solve problems to related to work activities	Leading small teams Developing and practice negotiation skills Solving problems to related to work activities
3rd Yr. summer	Computer education	Use relevant technologies	Using relevant technologies
3 rd Yr. 1 st sem.	Post Harvest handling of durable and plantation crops	Implement a post-harvest program Implement vertebrate pest control programs Save, prepare and store agricultural seed	Implementing a post-harvest program Implementing vertebrate pest control programs Saving, preparing and storing agricultural seed

ARTICLE III – SEPARABILITY AND REPEALING CLAUSES

Any provision of this Order, which may thereafter be held invalid, shall not affect the remaining provisions.

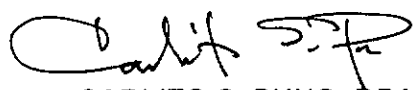
All CHED issuances or part thereof inconsistent with the provision in this CMO shall be deemed modified or repealed.

IV. EFFECTIVITY

This order shall take effect after its publication in the official Gazette or Newspaper of General Circulation.

Pasig City, Philippines. August 15, 2007

FOR THE COMMISSION:


CARLITO S. PUNO, DPA
 Chairman 