

Republic of the Philippines
 TECHNICAL EDUCATION AND SKILLS DEVELOPMENT AUTHORITY
 East Service Road, South Superhighway, Taguig City

91st TESDA BOARD MEETING
 16 June 2015, Tuesday, 2:00 p.m.
 7/F TESDA Board Room, Office of the Chair
 TESDA Complex, South Superhighway, Taguig City

Resolution No. 2015-08
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**APPROVING THE AMENDMENTS TO THE TRAINING REGULATIONS FOR
 MECHATRONICS SERVICING NC II**

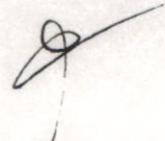
WHEREAS, TESDA Board Resolution No. 2006-28 was issued approving and promulgating the Training Regulations for Mechatronics Servicing NC II last 14 December 2006 during the 53rd TESDA Board Meeting;

WHEREAS, it is the policy of TESDA to review after three (3) years any Training Regulations (TRs) promulgated by the TESDA Board in fast-changing industries like ICT and electronics;

WHEREAS, the Mechatronics and Robotics Society of the Philippines, Inc. (MRSP) Expert Panel, with the assistance of the Qualifications and Standards Office (QSO) of TESDA, has recommended the amendments to the existing Training Regulations for Mechatronics Servicing NC II;

WHEREAS, during the Special Standards-Setting and System Development (SSSD) Meeting held on 04 February 2015 at 11:00 a.m., the Committee favorably endorsed the following amendments to the abovementioned Training Regulations for Mechatronics Servicing NC II;

Existing Promulgated Training Regulations (Board Resolution No. 2006-28)	Amendments
Qualification Title	
Mechatronics Servicing NC II	Mechatronics Servicing NC II
Job Title	
<ul style="list-style-type: none"> • Mechatronics Technician 2 	<ul style="list-style-type: none"> • Mechatronics and Automation Technician • Mechatronics and Automation Installer



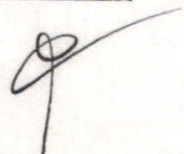
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 MECHATRONICS SERVICING NC II**

Existing Promulgated Training Regulations (Board Resolution No. 2006-28)	Amendments
Section 1 - Definition of the Qualification	
The Mechatronics Servicing NC II Qualification consists of competencies that must be possessed to enable a person to install, configure and test mechatronics devices.	The Mechatronics Servicing NC II Qualification consists of competencies that must be possessed to enable a person to install, configure and test mechatronics and automation devices/system.
Section 1- Units of Competency	
<u>Basic Competencies</u> (Prescribed competencies for NC II)	<u>Basic Competencies</u> No Amendments
<u>Common Competencies</u> (Prescribed competencies for NC II)	<u>Common Competencies</u> (Prescribed competencies for NC II) plus one unit of competency • Test electronic components
<u>Core Competencies</u> 1. Install Mechatronics Devices 2. Configure and Test Mechatronics Devices	<u>Core Competencies</u> 1. Install Mechatronics and Automation Devices 2. Configure and Test Mechatronics and Automation System



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Existing Promulgated Training Regulations (Board Resolution No. 2006-28)	Amendments
Section 2 - Competency Standards	
Updates/Changes were made consistent with the proposed amendments on Basic, Common and Core Competencies.	
Section 3 - Training Standards	
3.1 Curriculum Design	
Nominal Training Duration	
18 hrs – Basic Competencies 60 hrs – Common Competencies 96 hrs – Core Competencies <hr/> 174 hrs - Total	18 hrs – Basic Competencies 60 hrs – Common Competencies 80 hrs – Core Competencies <hr/> 158 hrs – TOTAL
Course Structure	
The course structure has four (4) columns namely – 1) Unit of competency; 2) Learning outcome; 3) Methodology; and 4) Assessment approach.	The course structure has seven (7) columns namely – 1) Unit of competency; 2) Learning outcome; 3) Learning content; 4) Practical activities; 5) Methodology; 6) Assessment approach; and 7) Nominal duration.
3.2 Training Delivery	
The delivery of training should adhere to the design of the curriculum. Delivery should be guided by the 10 basic principles of the competency-based TVET. <ul style="list-style-type: none"> • The training is based on curriculum developed from the competency standards; • Learning is modular in its structure; 	1. The delivery of training shall adhere to the design of the curriculum. Delivery shall be guided by the principles of competency-based TVET. <ul style="list-style-type: none"> a. Course design is based on competency standards set by the industry or recognized industry sector; (Learning system is driven by competencies written to industry standards);



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Existing Promulgated Training Regulations (Board Resolution No. 2006-28)	Amendments
3.2 Training Delivery	
<ul style="list-style-type: none"> • Training delivery is individualized and self-paced; • Training is based on work that must be performed; • Training materials are directly related to the competency standards and the curriculum modules; • Assessment is based in the collection of evidence of the performance of work to the industry required standard; • Training is based both on and off-the-job components; • Allows for recognition of prior learning (RPL) or current competencies; • Training allows for multiple entry and exit; and • Approved training programs are nationally accredited. <p>The competency-based TVET system recognizes various types of delivery modes, both on and off-the-job as long as the learning is driven by the competency standards specified by the industry. The following training modalities may be adopted when designing training programs:</p> <ul style="list-style-type: none"> • The dualized mode of training delivery is preferred and recommended. Thus programs would contain both in-school and in-industry training or fieldwork 	<ul style="list-style-type: none"> b. Training delivery is learner-centered and should accommodate individualized and self-paced learning strategies; c. Training can be done on an actual workplace setting, simulation of a workplace and/or through adoption of modern technology; d. Assessment is based in the collection of evidence of the performance of work to the industry required standards; e. Assessment of competency takes the trainee's knowledge and attitude into account but requires evidence of actual performance of the competency as the primary source of evidence; f. Training program allows for recognition of prior learning (RPL) or current competencies; and g. Training completion is based on satisfactory performance of all specified competencies. <p>2. The competency-based TVET system recognizes various types of delivery modes, both on-and off-the-job as long as the learning is driven by the competency standards specified by the industry. The following training modalities and their variations/</p>



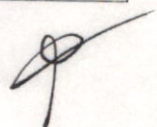
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Existing Promulgated Training Regulations (Board Resolution No. 2006-28)	Amendments
3.2 Training Delivery	
<p>components. Details can be referred to the Dual Training System (DTS) Implementing Rules and Regulations</p> <ul style="list-style-type: none"> • Modular/self-paced learning is a competency-based training modality wherein the trainee is allowed to progress at his own pace. The trainer only facilitates the training delivery. • Peer teaching/mentoring is a training modality wherein fast learners are given the opportunity to assist the slow learners. • Supervised industry training or on-the-job training is an approach in training designed to enhance the knowledge and skills of the trainee through actual experience in the workplace to acquire a specific competencies prescribed in the training regulations. • Distance learning is a formal education process in which majority of the instruction occurs when the students and instructors are not in the same place. Distance learning may employ correspondence study, or audio, video or computer technologies. 	<p>components may be adopted singly or in combination with other modalities when designing and delivering training programs:</p> <p>2.1. <u>Institution- Based:</u></p> <ul style="list-style-type: none"> • Dual Training System (DTS)/ Dualized Training Program (DTP) which contain both in-school and in-industry training or fieldwork components. Details can be referred to the Implementing Rules and Regulations of the DTS Law and the TESDA Guidelines on the DTP; • Distance learning is a formal education process in which majority of the instruction occurs when the students and instructor are not in the same place. Distance learning may employ correspondence study, audio, video, computer technologies or other modern technology that can be used to facilitate learning and formal and non-formal training. Specific guidelines on this mode shall be issued by the TESDA Secretariat. • The traditional classroom-based or in-center instruction may be enhanced through use of learner-centered methods as well as laboratory or field-work components.



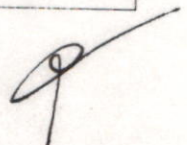
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Existing Promulgated Training Regulations (Board Resolution No. 2006-28)	Amendments.
	<p>2.2. Enterprise-Based:</p> <ul style="list-style-type: none"> • Formal Apprenticeship – Training within employment involving a contract between an apprentice and an enterprise on an approved apprenticeable occupation • Enterprise-based Training- where training is implemented within the company in accordance with the requirements of the specific company. Specific guidelines on this mode shall be issued by the TESDA Secretariat.
<p>3.3 Trainee Entry Requirements</p> <ol style="list-style-type: none"> 1. Can communicate in oral & in writing 2. Can perform basic mathematical computations 3. Can recognize abstract and 3-dimensional figures 4. Must be physically and mentally fit to undergo training 5. With good moral character 	<ol style="list-style-type: none"> 1. Must have completed at least 10 yrs. basic education or an alternative learning systems (ALS) certificate of achievement with grade 10 equivalent holder 2. Can communicate orally & in writing 3. Can perform basic mathematical computations <p>This list does not include specific institutional requirements such as written entrance exam, and other that may be required of the trainees by the school or training center delivering TVET program.</p>



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Existing Promulgated Training Regulations (Board Resolution No. 2006-28)		Amendments	
3.4 List of Tools, Equipment and Materials (per workstation)			
TOOLS		TOOLS	
QTY.	ITEM	QTY.	ITEM
25 pcs	Long-nosed pliers	10 pcs	Long-nosed pliers
25 pcs	Diagonal cutters	10 pcs	Diagonal cutters
25 pcs	Standard screwdrivers	10 pcs	Standard screwdrivers
25 pcs	Phillips screwdrivers	10 pcs	Phillips screwdrivers
25 pcs	Electrical pliers	10 pcs	Electrical pliers
25 pcs	Soldering iron	10 pcs	Soldering iron
25 pcs	Adjustable wrench	10 pcs	Adjustable wrench
5 pcs	Wire stripper	5 pcs	Wire stripper
5 pcs	Crimping tool	5 pcs	Crimping tool
5 sets	Allen wrench	5 sets	Allen wrench
5 sets	Jeweller's screwdrivers	5 sets	Precision screwdrivers
5 sets	Combination wrench, metric		
5 sets	Combination wrench, English		
EQUIPMENT		EQUIPMENT	
QTY.	ITEM	QTY.	ITEM
25 pcs	Multimeters	10 pcs	Multimeters (Analog/ Digital)
5 pcs	Transmitters or Transducers	1 pc.	Air compressor
1 pc.	Air compressor	3 pcs	Transmitters or Transducers
25 pcs	Regulated power supplies	5 pcs	Regulated DC power supplies
5 pcs	Cylinder Actuator	10 pcs	Cylinder Actuator
1 pc.	Stepper motor	10 pcs	Buzzers
1 pc.	Servomotor	25 pcs	Industrial panel switches
1 pc.	Variable frequency drive	10 pcs	Indicating lamps
25 pcs	Buzzers	10 pcs	Directional solenoid valves
25 pcs	Industrial panel switches	5 pcs	Pressure gage
25 pcs	Indicating lamps		
5 pcs	Directional solenoid valves		

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EQUIPMENT		EQUIPMENT	
QTY.	ITEM	QTY.	ITEM
5 pcs	Filter-Regulator-Lubricator set	5 pcs	Filter-Regulator-Lubricator set
5 pcs	Pressure gage	5 pcs	Limit switches
5 pcs	Limit switches	10 pcs	Photoelectric switches
5 pcs	Photoelectric switches	10 pcs	Proximity switches
5 pcs	Proximity switches	25 pcs	Relays
25 pcs	Relays	10 pcs	Magnetic contactors
5 pcs	Magnetic contactors	10 pcs	Timers
25 pcs	Timers	10 pcs	Counters
25 pcs	Counters	2 pcs	Desktop/Laptop PC
5 pcs	Desktop/Laptop PC	5 pcs.	Safety helmet
1 pc.	Safety helmet	5 pcs.	Safety harness
1 pc.	Safety harness	5 pcs.	Safety glasses/goggles
1 pc.	Safety glasses/goggles	5 pcs.	Ear plugs/ear muffs
1 pc.	Ear plugs/ear muffs	5 pcs.	Gas mask
1 pc.	Gas mask	5 pcs.	Face shield
1 pc.	Face shield	2 pcs.	20 I/O's PLC
MATERIALS		MATERIALS	
QTY.	ITEM	QTY.	ITEM
1 spool	Solder lead	1 spool	Solder lead
1 spool	Shielded cable	1 spool	Shielded cable
1 lot	Terminal lugs	1 lot	Terminal lugs
1 lot	Terminal strips/blocks	1 lot	Terminal strips/blocks
25 pcs	Cotton gloves	25 pcs	Cotton gloves
1 lot	Plastic tubing	1 lot	Plastic tubing
1 lot	Quick-connect fittings	1 lot	Quick-connect fittings
25 rolls	Electrical tape	10 rolls	Electrical tape
1 lot	Wire markers	1 lot	Wire markers
1 lot	Cable ties	1 lot	Cable ties

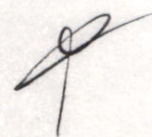
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Existing Promulgated Training Regulations (Board Resolution No. 2006-28)	Amendments
3.6 Trainer's Qualification	
<p>Mechatronics Servicing NC II Trainer's Qualification TQ II</p> <ol style="list-style-type: none"> 1. Must be a holder of Mechatronics Servicing NCII or NCIII or equivalent qualification 2. Must have completed a Trainor's Training course or equivalent years of experience 3. Must have at least 2-years relevant industry experience.* 4. Must be physically & mentally fit. <p>* <i>Optional: Only when required by the hiring institution.</i></p>	<p>Mechatronics Servicing NC II Trainer's Qualification TQ I</p> <ol style="list-style-type: none"> 1. Holder of National TVET Trainer's Certificate (NTTC) Level 1 in Mechatronics NC II or higher 2. Must have at least 2-years relevant industry experience.
3.7 Institutional Assessment	
<p>Institutional assessment is undertaken by trainees to determine their achievement of units of competency. A certificate of achievement is issued for each unit of competency.</p>	<p>Institutional assessment is undertaken by trainees to determine their achievement of units of competency. A certificate of achievement is issued for each unit of competency.</p> <p>The result of the institutional assessment may be considered as evidence for the assessment for national certification. As a matter of policy, graduates of programs registered with TESDA under this training regulation are required to undergo mandatory national competency assessment upon completion of the program.</p>



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Existing Promulgated Training Regulations (Board Resolution No. 2006-28)	Amendments
Section 4. National Assessment and Certification Arrangements	
<p>4.1 To attain the National Qualification of Mechatronics Servicing NC II, the candidate must demonstrate in all the units listed in Section 1. Successful candidates shall be awarded a National Certificate II signed by the TESDA Director General.</p> <p>4.2 The qualification of Mechatronics Servicing NC II may be attained through:</p> <p>4.2.1. Accumulation of Certificates of Competency (COCs) in all the following units of competencies:</p> <p>4.1.1.1 Install Mechatronics Devices</p> <p>4.1.1.2 Configure and Test Mechatronics Devices</p> <p>Successful candidates shall be awarded a Certificate of Competency (COC) in each of the core units.</p> <p>4.2.2. Demonstration of competence through project-type assessment covering all the units required in the qualification.</p> <p>4.3 Accumulation and submission of all COCs acquired for the relevant units of competency comprising a qualification, an individual shall be issued the corresponding National Certificate.</p>	<p>4.1 To attain the National Qualification of Mechatronics Servicing NC II, the candidate must demonstrate in all the units listed in Section 1. Successful candidates shall be awarded a National Certificate II signed by the TESDA Director General.</p> <p>4.2 The qualification of Mechatronics Servicing NC II may be attained through:</p> <p>4.2.1. Accumulation of Certificates of Competency (COCs) in all the following units of competencies:</p> <p>4.1.1.3 Install Mechatronics and Automation Devices</p> <p>4.1.1.4 Configure and Test Mechatronics and Automation Devices</p> <p>Successful candidates shall be awarded a Certificate of Competency (COC) in each of the core units.</p> <p>4.3 Accumulation and submission of all COCs acquired for the relevant units of competency comprising a qualification, an individual shall be issued the corresponding National Certificate</p>

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**APPROVING THE AMENDMENTS TO THE TRAINING REGULATIONS FOR
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Existing Promulgated Training Regulations (Board Resolution No. 2006-28)	Amendments
<p>4.4 Assessment shall focus on the core units of competency. The basic and common units shall be integrated or assessed concurrently with the core units.</p> <p>4.5 The following are qualified to apply for assessment and certification:</p> <p>4.5.1. Graduate of formal, non-formal, and informal including enterprise-based training programs.</p> <p>4.5.2. Experienced workers (wage employed or self-employed)</p> <p>4.6 The guidelines on assessment and certification are discussed in detail in the "Procedures Manual on Assessment and Certification" and "Guidelines on the Implementation of the Philippine TVET Qualification and Certification System (PTQCS)".</p>	<p>4.4 Assessment shall focus on the core units of competency. The basic and common units shall be integrated or assessed concurrently with the core units.</p> <p>4.5 The following are qualified to apply for assessment and certification:</p> <p>4.5.1. Graduate of formal and non-formal including enterprise-based training programs.</p> <p>4.5.2. Experienced workers (wage employed or self-employed)</p> <p>4.6 The guidelines on assessment and certification are discussed in detail in the "Procedures Manual on Assessment and Certification" and "Guidelines on the Implementation of the Philippine TVET Qualification and Certification System (PTQCS)".</p>



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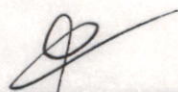
**APPROVING THE AMENDMENTS TO THE TRAINING REGULATIONS FOR
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WHEREAS, during the 91st TESDA Board Meeting on 16 June 2015 at 2:00 p.m., the TESDA Board considered the proposed amendments and approved the promulgation of the Training Regulations for Mechatronics Servicing NC II;


NOW, THEREFORE, BE IT RESOLVED, AS IT IS HEREBY RESOLVED, that that the TESDA Board in its meeting today, 16 June 2015 at 2:00 p.m., approves the aforementioned amendments to the Training Regulations for Mechatronics Servicing NC II;

BE IT RESOLVED FINALLY that copy of this Resolution and accompanying Training Regulations be published and disseminated to all concerned, and the same shall be effective fifteen (15) days upon publication. All programs registered under the abovementioned training regulations must comply with requirements of the aforementioned training regulations as amended. Graduates of TVET courses covered by the aforementioned training regulations as amended shall be required to undergo mandatory assessment under the national assessment and certification program. All programs registered on the current Mechatronics Servicing NC II will be required to migrate to the amended TRs within one (1) year from the date of effectivity of this resolution.

Adopted this 16th day of June 2015.


RINALYN B. DUMOL
Board Secretary VI

Attested by:


SEC. EMMANUEL JOEL J. VILLANUEVA
Alternate Chair, TESDA Board
Director General, Technical Education and Skills
Development Authority (TESDA)