



REPUBLIC OF KENYA

**NATIONAL OCCUPATIONAL STANDARDS
FOR
AUTOMOTIVE TECHNICIAN**

LEVEL 6



**TVET CDACC
P.O BOX 15745-00100
NAIROBI**

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FOREWORD

The provision of quality education and training is fundamental to the Government's overall strategy for social economic development. Quality education and training will contribute to achievement Kenya's development blue print and sustainable development goals.

Reforms in the education sector are necessary for the achievement of Kenya Vision 2030 and meeting the provisions of the Constitution of Kenya 2010. The education sector had to be aligned to the Constitution and this resulted to the formulation of the Policy Framework for Reforming Education and Training (Sessional Paper No. 4 of 2016). A key feature of this policy is the radical change in the design and delivery of the TVET training. This policy document requires that training in TVET be competency based, curriculum development be industry led, certification be based on demonstration of competence and mode of delivery allows for multiple entry and exit in TVET programmes.

These reforms demand that Industry takes a leading role in curriculum development to ensure the curriculum addresses its competence needs. It is against this background that these Occupational Standards were developed for the purpose of developing a competency based curriculum for Electrical Technician Level 6. These Occupational Standards will also be the bases for assessment of an individual for competence certification.

It is my conviction that these Occupational Standards will play a great role towards development of competent human resource for the Electrical sector's growth and sustainable development.

**PRINCIPAL SECRETARY, VOCATIONAL AND TECHNICAL
TRAINING MINISTRY OF EDUCATION**

PREFACE

Kenya Vision 2030 aims to transform the country into a newly industrializing, “middle-income country providing a high-quality life to all its citizens by the year 2030”. Kenya intends to create a globally competitive and adaptive human resource base to meet the requirements of a rapidly industrializing economy through life-long education and training. TVET has a responsibility of facilitating the process of inculcating knowledge, skills and attitudes necessary for catapulting the nation to a globally competitive country, hence the paradigm shift to embrace Competency Based Education and Training (CBET).

The Technical and Vocational Education and Training Act No. 29 of 2013 and Sessional Paper No. 4 of 2016 on Reforming Education and Training in Kenya, emphasized the need to reform curriculum development, assessment and certification in TVET. This called for shift to CBET in order to address the mismatch between skills acquired through training and skills needed by industry as well as increase the global competitiveness of Kenyan labour force.

The TVET Curriculum Development, Assessment and Certification Council (TVET CDACC), in conjunction with Building Sector Skills Advisory Committee (SSAC), have developed these Occupational Standards for a Building Technician. These standards will be the bases for development of competency-based curriculum for Building Technician level 6.

The occupational standards are designed and organized with clear performance criteria for each element of a unit of competency. These standards also outline the required knowledge and skills as well as evidence guide. I am grateful to the Council members, Council Secretariat, Building SSAC, expert workers and all those who participated in the development of these occupational standards.

**Prof. CHARLES M. M. ONDIEKI, PhD, FIET (K), Con. EngTech.
CHAIRMAN, TVET CDACC**

ACKNOWLEDGMENT

These Occupational Standards were developed through combined effort of various stakeholders from private and public organizations. I am sincerely thankful to the management of these organizations for allowing their staff to participate in this course. I wish to acknowledge the invaluable contribution of industry players who provided inputs towards the development of these Standards.

I thank TVET Curriculum Development, Assessment and Certification Council (TVET CDACC) for providing guidance on the development of these Standards. My gratitude goes to the Electrical Engineering Sector Skills Advisory Committee (SSAC) members for their contribution to the development of these Standards. I thank all the individuals and organizations who participated in the validation of these Standards.

I acknowledge all other institutions which in one way or another contributed to the development of these Standards.

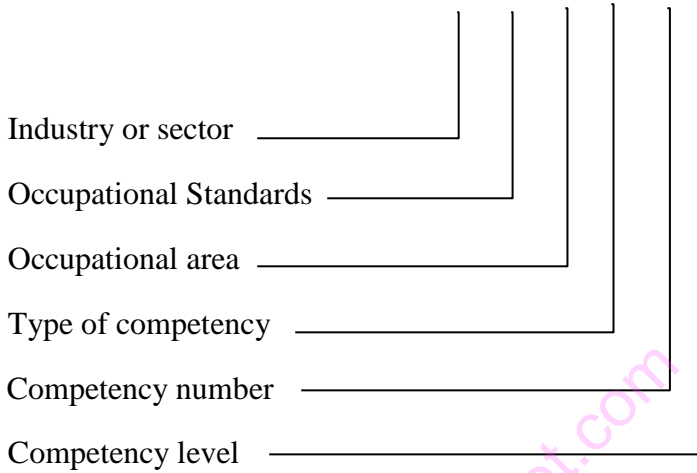
**CHAIRMAN ELECTRICAL ENGINEERING SECTOR SKILLS
ADVISORY COMMITTEE**

ACRONYMS

AC	Air conditioning
CDACC	Curriculum Development, Assessment and Certification Council
CI	Compression ignition
CV	Constant velocity joint
DTI	Dial test indicator
FOT	Fixed orifice tube
GPS	Global positioning system
ICT	Information and Communication Technology
KCSE	Kenya Certificate of Secondary Education
KNQA	Kenya National Qualification Authority
KNQF	Kenya National Qualification Framework
KPI	King Pin inclination
OBD	On-board diagnostics
PPE	Personal protective equipment
SI	Spark ignition
TVET	Technical and Vocational Education and Training
TXV	Thermal expansion valve
UJ	Universal joint

KEY TO UNIT CODE

ENG/OS/ET/BC/01/6



OVERVIEW

The Automotive Technician Level 6 qualification consists of competencies that a person must achieve to enable him/her to service and maintain motor vehicles in the motorvehicle service and repair industry.

The units of competency comprising Automotive Technician certificate level 6 qualifications include the following basic and core competencies:

BASIC COMPETENCIES

1. Demonstrate communication skills.
2. Demonstrate digital literacy.
3. Demonstrate entrepreneurial skills.
4. Demonstrate employability skills.
5. Demonstrate environmental literacy.
6. Demonstrate occupational safety and health practices.

COMMON UNITS OF COMPETENCY

1. Technical Drawing
2. Apply engineering Mathematics
3. Applying automotive engineering science principles
4. Applying workshop technology principles

CORE COMPETENCIES

1. Service and repair motor vehicle
2. Service and repair vehicle engines components
3. Service vehicle fuel systems
4. Service vehicle transmission system
5. Service vehicle steering systems
6. Service vehicle suspension systems
7. Service vehicle braking systems
8. Service vehicle electrical systems

BASIC UNITS OF COMPETENCY

DEMONSTRATE COMMUNICATION SKILLS

UNIT CODE: ENG/OS/AUT/BC/1/6

UNIT DESCRIPTION

This unit covers the competencies required in meeting communication needs of clients and colleagues; developing, establishing, maintaining communication pathways and strategies. It also covers competencies for conducting interviews, facilitating group discussion and representing the organization in various forums.

ELEMENTS AND PERFORMANCE CRITERIA

ELEMENT These describe the key outcomes which make the workplace function.	PERFORMANCE CRITERIA These are assessable statements which specify the required level of performance for each of the elements. <i>Bold and italicized terms are elaborated in the Range</i>
1. Meet communication needs of clients and colleagues.	1.1 Specific communication needs of clients and colleagues are identified and met. 1.2 Different approaches are used to meet communication needs of clients and colleagues. 1.3 Conflict is addressed promptly and in a timely way and in a manner which does not compromise the standing of the organization.
2. Develop	2.1 Strategies for effective internal and external

ELEMENT These describe the key outcomes which make the workplace function.	PERFORMANCE CRITERIA These are assessable statements which specify the required level of performance for each of the elements. <i>Bold and italicized terms are elaborated in the Range</i>
communication strategies.	dissemination of information are developed to meet the organization's requirements. 2.2 Special communication needs are considered in developing strategies to avoid discrimination in the workplace. 2.3 Communication <i>strategies</i> are analyzed, evaluated and revised where necessary to make sure they are effective.
3. Establish and maintain communication pathways.	3.1 Pathways of communication are established to meet requirements of organization and workforce. 3.2 Pathways are maintained and reviewed to ensure personnel are informed of relevant information.
4. Promote use of communication strategies.	4.1 Information is provided to all areas of the organization to facilitate implementation of the strategy. 4.2 Effective communication techniques are articulated and modelled to the workforce. 4.3 Personnel are given guidance about adapting communication strategies to suit a range of contexts.
5. Conduct interview.	5.1 A range of appropriate communication strategies are employed in <i>interview situations</i> . 5.2 Records of interviews are made and

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	maintained in accordance with organizational procedures. 5.3 Effective questioning, listening and nonverbal communication techniques are used to ensure that the required message is communicated.
6. Facilitate group discussion.	6.1 Mechanisms which enhance <i>effective group interaction</i> is defined and implemented. 6.2 Strategies which encourage all group members to participate are used routinely. 6.3 Objectives and agenda for meetings and discussions are routinely set and followed. 6.4 Relevant information is provided to the group to facilitate outcomes. 6.5 Evaluation of group communication strategies is undertaken to promote participation of all parties. 6.6 Specific communication needs of individuals are identified and addressed.
7. Represent the organization.	7.1 When participating in internal or external forums, presentation is relevant, appropriately researched and presented in a manner to promote the organization. 7.2 Presentation is clear and sequential and delivered within a predetermined time.

ELEMENT	PERFORMANCE CRITERIA
These describe the key outcomes which make the workplace function.	These are assessable statements which specify the required level of performance for each of the elements. <i>Bold and italicized terms are elaborated in the Range</i>
	7.3 Appropriate media is utilized to enhance presentation. 7.4 Differences in views are respected. 7.5 Written communication is consistent with organizational standards. 7.6 Inquiries are responded to in a manner consistent with organizational standards.

RANGE

This section provides work environment and conditions to which the performance criteria apply. It allows for different work environment and situations that will affect performance.

Variable	Range
1. Communication strategies may include but not limited to:	1.1 Language switch. 1.2 Comprehension check. 1.3 Repetition. 1.4 Asking for confirmation. 1.5 Paraphrase. 1.6 Clarification request. 1.7 Translation. 1.8 Restructuring. 1.9 Approximation. 2.0 Generalization.

<p>1. Effective group interaction may include but not limited to:</p>	<p>2.1 Identifying and evaluating what is occurring within an interaction in a non judgmental way.</p> <p>2.2 Using active listening.</p> <p>2.3 Making a decision about appropriate words, behavior.</p> <p>2.4 Putting together a response which is culturally appropriate.</p> <p>2.5 Expressing an individual perspective.</p> <p>2.6 Expressing own philosophy, ideology and background and exploring its impact with relevance to communication.</p>
<p>2. Situations may include but not limited to:</p>	<p>3.1 Establishing rapport.</p> <p>3.2 Eliciting facts and information.</p> <p>3.3 Facilitating resolution of issues.</p> <p>3.4 Developing action plans.</p> <p>3.5 Diffusing potentially difficult situations.</p>

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit of competency.

Required Skills

The individual needs to demonstrate the following skills:

- Effective communication.
- Active listening.
- Giving/receiving feedback.
- Interpretation of information.
- Role boundaries setting.
- Negotiation.
- Establishing empathy.
- Openness and flexibility in communication.
- Communication skills required to fulfil job roles as specified by the organization.
- Writing communications strategy.
- Applying key elements of communications strategy.

Required Knowledge

The individual needs to demonstrate knowledge of:

- Communication process.
- Dynamics of groups and different styles of group leadership.
- Communication skills relevant to client groups.
- Flexibility in communication.
- Communication skills relevant to client groups.
- Key elements of communications strategy.

EVIDENCE GUIDE

This provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge and range.

1. Critical aspects of Competency	Assessment requires evidence that the candidate: 1.1 Developed communication strategies to meet the organization requirements and applied in the workplace 1.2 Established and maintained communication pathways for effective communication in the workplace 1.3 Used communication strategies involving exchanges of complex oral information
2. Resource Implications	The following resources should be provided: 2.1 Access to relevant workplace or appropriately simulated environment where assessment can take place 2.2 Materials relevant to the proposed Activity or tasks
3. Methods of Assessment	Competency in this unit may be assessed through: 3.1 Direct Observation/Demonstration with Oral Questioning 3.2 Written Examination
4. Context of Assessment	Competency may be assessed individually in the actual workplace or through accredited institution
5. Guidance information for assessment	Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.