

COMPETENCY STANDARDS

ETHICAL HACKING LEVEL IV



INFORMATION AND COMMUNICATIONS TECHNOLOGY SECTOR

TECHNICAL EDUCATION AND SKILLS DEVELOPMENT AUTHORITY
East Service Road, South Luzon Expressway (SLEX), Taguig City, Metro Manila

Technical Education and Skills Development Act of 1994
(Republic Act No. 7796)

Section 22, “Establishment and Administration of the National Trade Skills Standards” of the RA 7796 known as the TESDA Act mandates TESDA to establish national occupational skills standards. The Authority shall develop and implement a certification and accreditation program in which private industry group and trade associations are accredited to conduct approved trade tests, and the local government units to promote such trade testing activities in their respective areas in accordance with the guidelines to be set by the Authority.

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The Competency Standards (CS) serve as basis for the:

- 1 Registration and delivery of training programs;
- 2 Development of curriculum and assessment instruments; and

Each CS has two sections:

Section 1 **Definition of Qualification** describes the qualification and defines the competencies that comprise the qualification.

Section 2 **Competency Standards** gives the specifications of competencies required for effective work performance.

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COMPETENCY STANDARDS FOR ETHICAL HACKING LEVEL IV

SECTION 1: DEFINITION OF QUALIFICATION

The **ETHICAL HACKING LEVEL IV** Qualification consists of competencies that a person must achieve to proactively protect an organization through managing network security and conducting penetration tests to its network and systems.

The Units of Competency comprising this Qualification include the following:

UNIT CODE	BASIC COMPETENCIES
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500311401	Utilize specialized communication skills
500311402	Develop and lead teams
500311403	Perform higher-order thinking processes and apply techniques in the workplace
500311404	Contribute to the practice of social justice in the workplace
500311405	Manage innovative work instructions
500311406	Manage and evaluate usage of information
500311407	Lead in improvement of Occupational Safety and Health (OSH) programs, policies and procedures
500311408	Lead towards improvement of environment work programs, policies and procedures
500311409	Sustain entrepreneurial skills

UNIT CODE	COMMON COMPETENCIES
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ICT315202	Apply quality standards
ICT311203	Perform Computer Operations

UNIT CODE	CORE COMPETENCIES
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CS-ICT251120	Manage network security
CS-ICT251121	Conduct penetration testing

A person who has achieved this Qualification is competent to be:

- Penetration tester
- White hat hacker
- Ethical hacker

SECTION 2: COMPETENCY STANDARDS

This section gives the details of the contents of the units of competency required in
ETHICAL HACKING LEVEL IV

BASIC COMPETENCIES

UNIT OF COMPETENCY : UTILIZE SPECIALIZED COMMUNICATION SKILLS

UNIT CODE : 500311404

UNIT DESCRIPTOR : This unit covers the knowledge, skills and attitudes required to use specialized communication skills to meet specific needs of internal and internal clients, conduct interviews, facilitate discussion with groups, and contribute to the development of communication strategies.

ELEMENT	PERFORMANCE CRITERIA <i>Italicized terms</i> are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
1. Meet common and specific 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 in a manner which does not compromise the organization	1.1 Communication processes 1.2 Dynamics of groups and different styles of group leadership 1.3 Communication skills relevant to client groups 1.4 Flexibility in communication	1.1 Full range of communication techniques including: 1.1.1 Effective communication process 1.1.2 Active listening 1.1.3 Giving/receiving feedback 1.1.4 Interpretation of information 1.1.5 Role boundaries setting 1.1.6 Negotiation 1.1.7 Establishing empathy 1.1.8 Conduct seminars 1.1.9 Public speaking 1.2 Communication skills required to fulfill job roles as specified by the organization
2. Contribute to the development of	2.1 Strategies for internal and external dissemination of information are	2.1 Communication process 2.2 Dynamics of groups and	2.1 Full range of communication techniques including:

communication strategies	<p>developed, promoted, implemented and reviewed as required</p> <p>2.2 Channels of communication are established and reviewed regularly</p> <p>2.3 Coaching in effective communication is provided</p> <p>2.4 Work related network and relationship are maintained</p> <p>2.5 Negotiation and conflict resolution strategies are used where required</p> <p>2.6 Communication with clients and colleagues is performed appropriate to individual needs and organizational objectives</p>	<p>different styles of group leadership</p> <p>2.3 Openness and flexibility in communication</p> <p>2.4 Communication skills relevant to client groups</p>	<p>2.2.1 Effective communication process</p> <p>2.2.2 Active listening</p> <p>2.2.3 Giving/receiving feedback</p> <p>2.2.4 Interpretation of information</p> <p>2.2.5 Role boundaries setting</p> <p>2.2.6 Negotiation</p> <p>2.2.7 Establishing empathy</p> <p>2.2.8 Conduct seminars</p> <p>2.2.9 Public speaking</p> <p>2.2 Communication skills required to fulfill job roles as specified by the organization</p>
3. Deliver a technical presentation	<p>3.1 Presentation is delivered clearly, sequential and delivered within allotted time</p> <p>3.2 Utilize appropriate media to enhance presentation</p> <p>3.3 Differences in views/opinions are respected</p> <p>3.4 Questions during fora are responded in a manner consistent with organizational standard</p>	<p>3.1 Communication process</p> <p>3.2 Dynamics of groups and different styles of group leadership</p> <p>3.3 Openness and flexibility in communication</p> <p>3.4 Communication skills relevant to client groups</p>	<p>3.1 Full range of communication techniques including:</p> <p>3.1.1 Effective communication process</p> <p>3.1.2 Active listening</p> <p>3.1.3 Giving/receiving feedback</p> <p>3.1.4 Interpretation of information</p> <p>3.1.5 Role boundaries setting</p> <p>3.1.6 Negotiation</p> <p>3.1.7 Establishing empathy</p> <p>3.1.8 Openness and flexibility in communication</p> <p>3.2 Communication skills required to fulfill job roles as</p>

			specified by the organization
4. Represent the organization	<p>4.1 When participating in internal or external forums, presentation is relevant, appropriately researched and presented in a manner to promote the organization</p> <p>4.2 Presentation is clear and sequential and delivered within a predetermined time</p> <p>4.3 Utilize appropriate media to enhance presentation</p> <p>4.4 Differences in views are respected</p> <p>4.5 Written communication is consistent with organizational standards</p> <p>4.6 Inquiries are responded in a manner consistent with organizational standard</p> <p>4.7 Consolidate ideas and suggestions</p> <p>4.8 Generalize and summarize all ideas and suggestions</p>	<p>4.1 Communication process</p> <p>4.2 Dynamics of groups and different styles of group leadership</p> <p>4.3 Openness and flexibility in communication</p> <p>4.4 Communication skills relevant to client groups</p>	<p>4.1 Full range of communication techniques including:</p> <p>4.1.1 Effective communication process</p> <p>4.1.2 Active listening</p> <p>4.1.3 Giving/receiving feedback</p> <p>4.1.4 Interpretation of information</p> <p>4.1.5 Role boundaries setting</p> <p>4.1.6 Negotiation</p> <p>4.1.7 Establishing empathy</p> <p>4.1.8 Openness and flexibility in communication</p> <p>4.2 Communication skills required to fulfill job roles as specified by the organization</p>
5. Facilitate group discussion	<p>5.1 Mechanisms which enhance effective group interaction is defined and implemented</p> <p>5.2 Strategies which encourage all group members to participate are used routinely</p> <p>5.3 Objectives and agenda for meetings</p>	<p>5.1 Communication process</p> <p>5.2 Dynamics of groups and different styles of group leadership</p> <p>5.3 Openness and flexibility in communication</p> <p>5.4 Communication skills relevant to client groups</p>	<p>5.1 Full range of communication techniques including:</p> <p>5.1.1 Effective communication process</p> <p>5.1.2 Active listening</p> <p>5.1.3 Giving/receiving feedback</p>

	<p>and discussions are routinely set and followed</p> <p>5.4 Relevant information is provided to group to facilitate outcomes</p> <p>5.5 Evaluation of group communication strategies is undertaken to promote participation of all parties</p> <p>5.6 Specific communication needs of individuals are identified and addressed</p>		<p>5.1.4 Interpretation of information</p> <p>5.1.5 Role boundaries setting</p> <p>5.1.6 Negotiation</p> <p>5.1.7 Establishing empathy</p> <p>5.1.8 Openness and flexibility in communication</p> <p>5.2 Communication skills required to fulfill job roles as specified by the organization</p>
6. Conduct interview	<p>6.1 A range of appropriate communication strategies are employed in <i>interview situations</i></p> <p>6.2 Records of interviews are made and maintained in accordance with organizational procedures</p> <p>6.3 Effective questioning, listening and nonverbal communication techniques are used to ensure that required message is communicated</p>	<p>6.1 Communication process</p> <p>6.2 Dynamics of groups and different styles of group leadership</p> <p>6.3 Effective questioning techniques</p> <p>6.4 Communication skills relevant to client groups</p>	<p>6.1 Full range of communication techniques including:</p> <p>6.1.1 Effective communication process</p> <p>6.1.2 Active listening</p> <p>6.1.3 Giving/receiving feedback</p> <p>6.1.4 Interpretation of information</p> <p>6.1.5 Role boundaries setting</p> <p>6.1.6 Negotiation</p> <p>6.1.7 Establishing empathy</p> <p>6.2 Effective clarifying and probing techniques (questioning skills)</p> <p>6.3 Communication skills required to fulfill job roles as specified by the organization</p>

RANGE OF VARIABLES

VARIABLE	RANGE
1. Strategies	May include: 1.1. Recognizing own limitations 1.2. Referral to specialists 1.3. Utilizing techniques and aids 1.4. Providing written drafts 1.5. Verbal and non verbal communication
2. Effective Group Interaction	May include: 2.1. Identifying and evaluating what is occurring within an interaction in a non judgmental way 2.2. Using active listening 2.3. Making decision about appropriate words, behavior 2.4. Putting together response which is culturally appropriate 2.5. Expressing an individual perspective 2.6. Expressing own philosophy, ideology and background and exploring impact with relevance to communication 2.7. Openness and flexibility in communication
3. Types of Interview	May include: 3.1. Related to staff issues 3.2. Routine 3.3. Confidential 3.4. Evidential 3.5. Non disclosure 3.6. Disclosure
4. Interview Situations	May include: 4.1. Establish rapport 4.2. Elicit facts and information 4.3. Facilitate resolution of issues 4.4. Develop action plans 4.5. Diffuse potentially difficult situation

EVIDENCE GUIDE

1. Critical Aspects of Competency	Assessment requires evidence that the candidate: 1.1 Demonstrated effective communication skills with clients accessing service and work colleagues 1.2 Adopted relevant communication techniques and strategies to meet client particular needs and difficulties
2. Resource Implications	2.1 Access to appropriate workplace where assessment can take place
3. Methods of Assessment	Competency in this unit may be assessed through: 3.1 Case Study 3.2 Interview 3.3 Portfolio 3.4 Written Test 3.5 Role Play
4. Context for Assessment	4.1 This unit should be assessed on the job through simulation

UNIT OF COMPETENCY : DEVELOP AND LEAD TEAMS

UNIT CODE : 500311402

UNIT DESCRIPTOR : This unit covers the skills, knowledge and attitudes required to determine individual and team development needs and facilitate the development of the workgroup.

ELEMENT	PERFORMANCE CRITERIA <i>Italicized terms</i> are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
1. Foster individual growth	<p>1.1 <i>Learning and development needs</i> of team members are systematically identified in line with <i>organizational requirements</i></p> <p>1.2 Development plan to meet individual needs is collaboratively developed and implemented</p> <p>1.3 Individuals are encouraged to self - evaluate performance and identify areas for improvement</p> <p>1.4 <i>Feedback on performance</i> of team members is collected from relevant sources and compared with established team learning process</p>	<p>1.1 Effective workplace communication, coaching and mentoring principles</p> <p>1.2 Feedback principles and procedures</p> <p>1.3 Working interdependently: strategies and techniques</p> <p>1.4 Leadership Concepts:</p> <ul style="list-style-type: none">• Types of Decision Teams Make• Team Responsibilities• Problems that Affect Teams• Building Strong Team Communication• Expressing Yourself on a Team• Team Problem Solving	<p>1.1 Ability to read and understand a variety of texts, prepare general information and documents according to target audience; spell with accuracy; use grammar and punctuation effective relationships and conflict management</p> <p>1.2 Coaching and mentoring skills to provide support to colleagues</p> <p>1.3 Communication skills including receiving feedback and reporting, maintaining effective relationships and conflict management</p> <p>1.4 Ability to relate to people from a range of social, cultural, physical and mental backgrounds</p> <p>1.5 Planning skills to organize</p>

			<p>required resources and equipment to meet learning needs</p> <p>1.6 Reporting skills to organize information; assess information for relevance and accuracy; identify and elaborate on learning outcomes</p> <p>1.7 Facilitation skills to conduct small group training sessions</p>
2. Foster individual and team growth	<p>2.1 Learning and development program goals and objectives are identified to match the specific knowledge and skills requirements of competency standards</p> <p>2.2 Learning delivery methods are appropriate to the learning goals, the learning style of participants and availability of equipment and resources</p> <p>2.3 Workplace learning opportunities and coaching/ mentoring assistance are provided to facilitate individual and team achievement of competencies</p> <p>2.4 Resources and timelines required for learning activities are identified and approved in accordance with</p>	<p>2.1 Advanced coaching and mentoring techniques</p> <p>2.2 Performance evaluation concepts</p> <p>2.3 Training and development techniques</p>	<p>2.1 Instructional planning and delivery skills</p> <p>2.2 Monitoring and evaluation skills</p> <p>2.3 Mentoring and coaching skills</p>

	organizational requirements		
3. Monitor and evaluate workplace learning	<p>3.1 Feedback from individuals or teams is used to identify and implement improvements in future learning arrangements</p> <p>3.2 Outcomes and performance of individuals/teams are assessed and recorded to determine the effectiveness of development programs and the extent of additional support</p> <p>3.3 Modifications to learning plans are negotiated to improve the efficiency and effectiveness of learning</p> <p>3.4 Records and reports of competency are maintained within organizational requirement</p>	<p>3.1 Types and levels of learning evaluation</p> <p>3.2 Learning styles and strategies</p> <p>3.3 Training and development approaches</p>	<p>3.1 Instructional planning and delivery skills</p> <p>3.2 Monitoring and evaluation skills</p> <p>3.3 Mentoring and coaching skills</p>
4. Develop team commitment and cooperation	<p>4.1 Open communication processes to obtain and share information is used by team</p> <p>4.2 Decisions are reached by the team in accordance with its agreed roles and responsibilities</p> <p>4.3 Mutual concern and camaraderie are developed in the team</p> <p>4.4 Career planning for each member are monitored</p>	<p>4.1 Career development for group members</p> <p>4.2 Principles of team commitment and cooperation</p> <p>4.3 Team dynamics and performance</p>	<p>4.1 Instructional planning and delivery skills</p> <p>4.2 Monitoring and evaluation skills</p> <p>4.3 Mentoring and coaching skills</p>

ELEMENT	PERFORMANCE CRITERIA <i>Italicized terms</i> are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
5. Facilitate accomplishment of team goals	5.1 Team members actively participated in team activities and communication processes 5.2 Teams members developed individual and joint responsibility for their actions 5.3 Collaborative efforts are sustained to attain organizational goals	5.1 Group Development Process and Principles as applied in the workplace 5.2 Principles of organizational development 5.3 Collaboration principles and procedures	5.1 Instructional planning and delivery skills 5.2 Monitoring and evaluation skills 5.3 Mentoring and coaching skills 5.4 Organizational leadership

RANGE OF VARIABLES

VARIABLE	RANGE
1. Learning and Development Needs	May include: 1.1 Coaching, mentoring and/or supervision 1.2 Formal/informal learning program 1.3 Internal/external training provision 1.4 Work experience/exchange/opportunities 1.5 Personal study 1.6 Career planning/development 1.7 Performance appraisals 1.8 Workplace skills assessment 1.9 Recognition of prior learning 1.10 Job design and enrichment
2. Organizational Requirements	May include: 2.1 Quality assurance and/or procedures manuals 2.2 Goals, objectives, plans, systems and processes 2.3 Legal and organizational policy/guidelines and requirements 2.4 Safety policies, procedures and programs 2.5 Confidentiality and security requirements 2.6 Business and performance plans 2.7 Ethical standards 2.8 Quality and continuous improvement processes and standards
3. Feedback on Performance	May include: 3.1 Formal/informal performance appraisals 3.2 Obtaining feedback from supervisors and Colleagues 3.3 Obtaining feedback from clients 3.4 Personal and reflective behavior strategies 3.5 Routine and organizational methods for monitoring service delivery
4. Learning Delivery Methods	May include: 4.1 On the job coaching or mentoring 4.2 Problem solving 4.3 Presentation/demonstration 4.4 Formal course participation 4.5 Work experience 4.6 Involvement in professional networks 4.7 Conference and seminar attendance 4.8 Induction

EVIDENCE GUIDE

1. Critical Aspects of Competency	Assessment requires evidence that the candidate: 1.1. Identified and implemented learning opportunities for others 1.2. Gave and received feedback constructively 1.3. Facilitated participation of individuals in the work of the team 1.4. Negotiated learning plans to improve the effectiveness of learning 1.5. Prepared learning plans to match skill needs 1.6. Accessed and designated learning opportunities
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. Observation of work activities of the individual member in relation to the work activities of the group 3.2. Observation of simulation and or role play involving the participation of individual member to the attainment of organizational goal 3.3. Case studies and scenarios as a basis for discussion of issues and strategies in teamwork
4. Context for Assessment	4.1. Competency may be assessed in workplace or in a simulated workplace setting 4.2. Assessment shall be observed while tasks are

UNIT OF COMPETENCY : PERFORM HIGHER-ORDER THINKING PROCESSES AND APPLY TECHNIQUES IN THE WORKPLACE

UNIT CODE : 500311403

UNIT DESCRIPTOR : This unit of covers the knowledge, skills and attitudes required to use fundamental critical thinking skills in the workplace.

ELEMENT	PERFORMANCE CRITERIA <i>Italicized terms</i> are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
1. Evaluate effectiveness and efficiency of the workplace systems, processes and procedures.	<p>1.1 <i>Effectiveness and efficiency</i> of workplace standards and procedures are examined.</p> <p>1.2 Usage of inquiry and dialogue to communicate evaluation measures and results are implemented.</p> <p>1.3 Evaluation reports are prepared and communicated to team members.</p>	<p>1.1 Systems, standards, procedures and protocols in the workplace.</p> <p>1.2 Different methods of critical and appreciative inquiry and their relevance to different situations</p> <p>1.3 Techniques to assist in forming the habit of asking questions and taking responsibility for answers.</p> <p>1.4 Why questions are important and the benefits of asking good questions for individuals, businesses and communities (the importance of critical thinking).</p>	<p>1.1 Using range of analytical techniques (e.g., planning, attention, simultaneous and successive processing of information).</p> <p>1.2 Communicating to actively listen and to ask questions of others in a constructive way.</p> <p>1.3 Using critical thinking pathway to formulate and ask relevant questions and come up with appropriate answers.</p> <p>1.4 Performing assimilation and accommodation skills to interpret and distil key information of relevance to a given situation.</p> <p>1.5 Assessing and measuring the extent of effectiveness and efficiency of the systems,</p>

			processes and procedures in the workplace.
2. Foster the habit of critical inquiry and curiosity in the workplace	<p>2.1 Issues and situations are reflected on and wondered about.</p> <p>2.2 Issues and problems in the workplace particularly in the policies, procedures and protocols are discussed and evaluated between and among teams.</p> <p>2.3 Evaluation of efficiency and effectiveness of workplace policies, procedures and protocols are documented, communicated and agreed upon between and among teams.</p> <p>2.4 Growth mindset and positive relationship and communication is applied in the context of curiosity and critical inquiry in the workplace.</p>	<p>2.1 Different methods of critical and appreciative inquiry and their relevance to different situations.</p> <p>2.2 Techniques to assist in forming the habit of asking questions and taking responsibility for answers.</p> <p>2.3 Why questions are important and the benefits of asking good questions for individuals, businesses and communities (the importance of critical thinking).</p> <p>2.4 Growth mindset and positive communication and relationship strategies and techniques.</p>	<p>2.1 Using range of analytical techniques (e.g., planning, attention, simultaneous and successive processing of information).</p> <p>2.2 Communicating to actively listen and to ask questions of others in a constructive way.</p> <p>2.3 Using critical thinking pathway to formulate and ask relevant questions and come up with appropriate answers.</p> <p>2.4 Performing assimilation and accommodation skills to interpret and distil key information of relevance to a given situation.</p> <p>2.5 Assessing and measuring the extent of effectiveness and efficiency of the systems, processes and procedures in the workplace.</p> <p>2.6 Communicating insights on workplace effectiveness and efficiency.</p>
3. Develop practical action	3.1 Evaluation of efficiency and	3.1 Different methods of critical and	3.1 Using range of analytical

plans for improving workplace conditions.	<p>effectiveness of workplace policies, procedures and protocols are documented, communicated to stakeholders.</p> <p>3.2 Practical action plans in improving workplace conditions are formulated, presented and negotiated with stakeholders.</p> <p>3.3 Proposed changes and directions are inquired, processed and negotiated between and among teams, and stakeholders as well of the organization.</p> <p>3.4 Commitment to continuous improvement and change is highlighted.</p> <p>3.5 Passion and dedication for changing and adapting to the demands of the 21st century workplace are considered.</p>	<p>appreciative inquiry and their relevance to different situations.</p> <p>3.2 Techniques to assist in forming the habit of asking questions and taking responsibility for answers.</p> <p>3.3 Why questions are important and the benefits of asking good questions for individuals, businesses and communities (the importance of critical thinking).</p> <p>3.4 Growth mindset and positive communication and relationship strategies and techniques.</p> <p>3.5 Creative negotiation skills.</p> <p>3.6 Change management and continuous improvement concepts.</p>	<p>techniques (e.g., planning, attention, simultaneous and successive processing of information).</p> <p>3.2 Communicating to actively listen and to ask questions of others in a constructive way.</p> <p>3.3 Using critical thinking pathway to formulate and ask relevant questions and come up with appropriate answers.</p> <p>3.4 Performing assimilation and accommodation skills to interpret and distil key information of relevance to a given situation.</p> <p>3.5 Assessing and measuring the extent of effectiveness and efficiency of the systems, processes and procedures in the workplace.</p> <p>3.6 Communicating practical insights on improving workplace conditions.</p>
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RANGE OF VARIABLES

VARIABLE	RANGE
1. Effectiveness and Efficiency	May include but not limited to: 1.1 Developing a more efficient way of doing something 1.2 Developing a new idea 1.3 Developing and improving products and services 1.4 Enhancing skills and career opportunities 1.5 Enhancing the physical environment 1.6 Financial benefit 1.7 Greater personal satisfaction 1.8 Improving interpersonal relationships 1.9 Evaluating overall workplace conditions
2. Curiosity and Critical Inquiry	May include but not limited to: 2.1 Accuracy 2.2 Breadth 2.3 Clarity 2.4 Depth 2.5 Emotion 2.6 Fairness 2.7 Logic 2.8 Meaning 2.9 Planning 2.10 Attention 2.11 Precision 2.12 Relevance 2.13 Significance 2.14 Social engagement 2.15 Society 2.16 Style 2.17 Growth mindset 2.18 Positive communication 2.19 Positive negotiation 2.20 Workplace conditions 2.21 Appreciative inquiry methods
3. Practical Action Plans	May include but not limited to: 3.1 Insights on continuous improvement 3.2 Creative strategies and techniques for becoming better at work and real life 3.3 Career plans 3.4 Challenging workplace policies, procedures and protocols 3.5 Specifying plans for change and adapting to the demands of the contemporary workforce 3.6 Challenges in negotiating with stakeholders and teams 3.7 Change management, innovation and knowledge creation 3.8 Contractual agreements 3.9 Extreme time pressure or non-negotiable deadlines 3.10 Financial limitations

	3.11 Procedures determined by laws or other regulations 3.12 Safety issues 3.13 When others are totally closed to new ideas 3.14 Acknowledging shared responsibility 3.15 Adopting a positive 'can do' attitude 3.16 Following up on practical details 3.17 Pro-actively seeking information 3.18 Suggesting a new approach 3.19 Talking to others about possible answers 3.20 Constraints of the broader context and environment 3.21 Overall goal - what needs to be achieved 3.22 Personal hopes and expectations
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EVIDENCE GUIDE

1. Critical Aspects of Competency	<p>Assessment requires evidence that the candidate:</p> <ul style="list-style-type: none"> 1.1 Evaluated the effectiveness and efficiency of workplace systems, processes and procedures. 1.2 Modelled the conscious process of critical inquiry to get new insights that s/he can get in formulating action plans on continuous improvement in the workplace and real-life 1.3 Practiced the habit of critical inquiry and curiosity in the workplace 1.4 Shown a thorough knowledge and understanding of how critical thinking impacts on individual lives, the broader community and work situations. 1.5 Developed practical action plans for improving workplace conditions
2. Resource Implications	2.1. Interactions with specific challenges and situations to demonstrate the application of critical thinking (this would usually involve interactions with others).
3. Methods of Assessment	<p>Competency in this unit may be assessed through:</p> <ul style="list-style-type: none"> 3.1 Direct questioning combined with review of portfolios of evidence and third-party workplace reports of on-the-job performance by the candidate 3.2 Evaluation of a candidate blog exploring different ideas and questions 3.3 Review of candidate response to scenarios that allow the candidate to apply critical thinking techniques to a life or work situation, and to demonstrate ability to portray curiosity and exploration of new concepts 3.4 Evaluation of candidate response to the challenge of adopting different perspectives on a situation, and ability to both develop and respond to questions from those perspectives 3.5 Observation of the candidate participating in a group problem-solving session 3.6 Oral or written questioning to assess knowledge of typical blockers to the critical thinking process. 3.7 Life Narrative Inquiry to reflect life stories that reflect how critical thinking and problem solving is applied in the lives.
4. Context for Assessment	4.1 In all workplace, it may be appropriate to assess this unit concurrently with relevant teamwork or operation units.

UNIT OF COMPETENCY : CONTRIBUTE TO THE PRACTICE OF SOCIAL JUSTICE IN THE WORKPLACE

UNIT CODE : 500311404

UNIT DESCRIPTOR : This unit covers ways and means to assume active roles in resolving local and global challenges and to become proactive contributors to a more peaceful and sustainable world.

ELEMENT	PERFORMANCE CRITERIA <i>Italicized terms</i> are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
1. Update self on local, national and global trends/ issues in the workplace	<p>1.1 Media are regularly scanned/ monitored for trends and issues relevant to human rights, gender equality, promotion of culture of peace and non-violence, global citizenship and appreciation of cultural diversity.</p> <p>1.2 Knowledge and understanding of local, national and global issues and their interconnectedness and interdependency are acquired.</p> <p>1.3 Notable issues and trends are critically examined and discussed with peers, colleagues, or family members.</p>	<p>1.1 Local, national and global systems and structures</p> <p>1.2 Issues affecting interaction and connectedness of communities at local, national and global levels</p> <p>1.3 Underlying assumptions and power dynamics (politics, understanding political system, social structures, labor laws, labor relations, human right)</p>	<p>1.1 Monitoring trends and issues relevant to human rights, gender equality, culture of peace, global citizenship, and cultural diversity using different media platforms</p> <p>1.2 Analyzing trends and issues relevant to human rights, gender equality, culture of peace, global citizenship, and cultural diversity</p> <p>1.3 Engaging in discourse about the local, national and global issues</p>
2. Relate local and global trends to workplace context	<p>2.1 Local events are reflected on for implications in one's own situation and in the external global environment.</p> <p>2.2 Sense of belonging to a common humanity, sharing values and</p>	<p>2.1 Different levels of human identity according to Amber Mayer (2015)</p> <p>2.2 Different communities people belong to and how these are connected</p>	<p>2.1 Recognizing differences and commonalities among people</p> <p>2.2 Strengthening attitudes of empathy, solidarity and respect for diversity</p>

	<p>responsibilities are developed.</p> <p>2.3 Attitudes of empathy, solidarity and respect for differences and diversity are strengthened</p>	2.3 Difference and respect for cultural diversity	2.3 Connecting local issues to global trends, and vice versa.
3. Engage and take actions on workplace issues and concerns	<p>3.1 Effective and responsible actions at local, national and global levels are identified.</p> <p>3.2 Motivation and willingness to take necessary actions are developed.</p> <p>3.3 Attitude of “thinking globally and acting locally” is practiced.</p>	<p>3.1 Actions that can be taken individually and collectively</p> <p>3.2 Ethically responsible behaviour</p> <p>3.3 Importance and benefits of civic engagement</p> <p>3.4 Strategies and techniques of “thinking globally and acting locally</p>	<p>3.1 Employing appropriate actions to address workplace issues involving national and global trends</p> <p>3.2 Showing concern and willingness to take part in the development efforts to discuss workplace issues and concerns</p> <p>3.3 Applying the attitude of “thinking globally and acting locally” in the workplace</p>

RANGE OF VARIABLES

VARIABLE	RANGE
1. Media	May include but not limited to: 1.1 Print media 1.2 Broadcast media 1.3 Internet and social media
2. Scanning/Monitoring	May include but not limited to: 2.1 Sourcing from key informants 2.2 Conversation with clients 2.3 Man-on-the-street conversation 2.4 Scanning print and broadcast media
3. Local, National and Global Issues	May include but not limited to: 3.1 Poverty 3.2 Unemployment 3.3 Global warming 3.4 Safety, security, and well-being

EVIDENCE GUIDE

1. Critical Aspects of Competency	Assessment requires evidence that the candidate: 1.1 Express emotions appropriately 1.2 Demonstrated ability to think and act based on one's principles and values 1.3 Demonstrated a holistic/global outlook on internal and external events in the workplace
2. Resource Implications	The following resources should be provided: 2.1. Access to workplace and resources 2.2. Case studies
3. Methods of Assessment	Competency in this unit may be assessed through: 3.1. Demonstration or simulation with oral questioning 3.2. Case problems involving global and local issues 3.3. Third-party report
4. Context for Assessment	4.1. Competency assessment may occur in workplace or any appropriately simulated environment

UNIT OF COMPETENCY : MANAGE INNOVATIVE WORK INSTRUCTIONS

UNIT CODE : 500311405

UNIT DESCRIPTOR : This unit covers the knowledge, skills and attitudes required to sustain and develop a workplace environment in which improvement, innovation and learning are promoted and reinforced.

ELEMENT	PERFORMANCE CRITERIA <i>Italicized terms</i> are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
1. Review and analyze existing workplace practices	1.1 Current instructions and strategies to perform tasks in the workplace are reviewed 1.2 Climate for innovation at the organizational level is defined 1.3 Innovation drivers in the workplace are identified	1.1 Four drivers of innovation according to Gallup Management Journal (2007) 1.2 Contextual variables related to innovative practices in the organization 1.3 The nine dimensions of innovation climate (Isaksen & Isaksen, 2018) 1.4 Types of Innovation identified by Gopalakrishnan and Dama	1.1 Investigating the organizational needs in the innovation process 1.2 Defining current organizational innovative practices 1.3 Linking innovation to contextual variables in the organization
2. Examine opportunities for continuous improvement and innovation of practices in the workplace	2.1 Effectiveness of innovative practices in the workplace is determined 2.2 Innovative behaviors of leaders or managers in the organization are assessed 2.3 Driving principles of innovation are discussed	2.1 Determinants of innovative behavior by Scott and Bruce (1992) 2.2 Four principles of innovation according to Gallup Management Journal (2007)	2.1 Evaluating organizational innovative practices 2.2 Gauging innovative behaviors of the leaders and managers in the organization 2.3 Deliberating opportunities and challenges in implementing innovation

3. Implement innovative ways in the conduct of usual workplace practices	3.1 Innovative behaviors in the workplace are performed 3.2 Innovative climate in the workplace is maintained 3.3 Adoption or modification of new ideas relevant to the organizational needs is achieved	3.1 Determinants of innovative behavior by Scott and Bruce (1992) 3.2 The nine dimensions of innovation climate (Isaksen & Isaksen, 2018) 3.3 Techniques in implementing innovative change in the workplace	3.1 Developing risk management techniques and control systems 3.2 Evaluating impact of changes and developing action plans 3.3 Demonstrating strategies and techniques in managing changes in the workplace
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RANGE OF VARIABLES

VARIABLE	RANGE
1. Innovation	May include: 1.1 Products versus processes 1.2 Radical versus incremental 1.3 Technical versus administrative
2. Innovative Behaviors	May include: 2.1 Always generate creative ideas or new solutions 2.2 Exploring and secure funds or resources required for implementing new ideas 2.3 Establishing adequate plans and schedules for implementing new ideas 2.4 Contributing suggestions or approaches for others' creative ideas

EVIDENCE GUIDE

1. Critical Aspects of Competency	Assessment requires evidence that the candidate: 1.1 Analyzed and evaluated systems and performance in key areas of the organization and identify opportunities for improvement, seeking advice from experts as appropriate 1.2 Promoted the value of creativity, innovation and sustainability and recognize successes 1.3 Supported the testing and trialing of new ideas and undertake risk management and cost-benefit analysis for options 1.4 Planned for and implemented improvements using organization's processes for approvals, project management and change management 1.5 Facilitated effective contributions to and communications about continuous improvement and innovation 1.6 Captured insights, experiences and ideas for improvements and incorporate them into the organization's knowledge management systems and future planning
2. Resource Implications	The following resources should be provided: 2.1 Impact evaluation materials (guide and form)
3. Methods of Assessment	Competency in this unit may be assessed through: 3.1 Interview 3.2 Written Evaluation 3.3 Case Analysis
4. Context for Assessment	4.1 Competency may be assessed individually in the actual workplace or simulation environment in TESDA accredited institutions

UNIT OF COMPETENCY : MANAGE AND EVALUATE USAGE OF INFORMATION

UNIT CODE : 500311406

UNIT DESCRIPTOR : This unit of competency covers the knowledge, skills and attitudes required to support

ELEMENT	PERFORMANCE CRITERIA <i>Italicized terms</i> are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
1. Review information needs and sources	1.1 The information needs of individuals/teams are determined and the sources are identified. 1.2 Information held by the organisation is reviewed to determine suitability and accessibility. 1.3 Plans are prepared to obtain information that is not available or accessible within the organization.	1.1 Analysis and display techniques 1.2 Information evaluation issues 1.3 Information storage requirements and methods 1.4 Reporting procedures of the organisation	1.1 Analysing record information 1.2 Communicating effectively 1.3 Disseminating information 1.4 Presenting information
2. Collect and analyze information	2.1 Collection of information is interpreted timely and relevant to the needs of individuals/teams. 2.2 Information is collected in formal suitable for analysis , interpretation and dissemination. 2.3 Information is analyzed to identify relevant trends and developments in terms of the needs for which is acquired.	2.1 Information collection, collation 2.2 Analysis and display techniques 2.3 Information evaluation issues 2.4 Information storage requirements and methods 2.5 Reporting procedures of the organisation	2.1 Collecting and collating information 2.2 Analysing record information 2.3 Communicating effectively 2.4 Disseminating information 2.5 Presenting information

3. Use management information systems	3.1 Management information systems are used to store and retrieve data for decision making. 3.2 Technology available in the work area/ organisation is used to manage information. 3.3 Recommendations for improving the information system are submitted to designated persons/ groups.	3.1 Analysis and display techniques 3.2 Information collection, collation 3.3 Information evaluation issues 3.4 Information storage requirements and methods 3.5 Reporting procedures of the organisation	3.1 Analysing record information 3.2 Collecting and collating information 3.3 Communicating effectively 3.4 Disseminating information 3.5 Presenting information 3.6 Using management information systems to store and retrieve data
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RANGE OF VARIABLES

VARIABLE	RANGE
1. Information	May include but not limited to: 1.1. Routine and complex reports and submissions 1.2. Briefing notes 1.3. Ministerial 1.4. Proposals 1.5. Project plans 1.6. Articles and promotional material
2. Collection Techniques or Methods	2.1 Collection techniques may include: 2.1.1 Research 2.1.2 Surveys 2.1.3 Literature search 2.1.4 Interviews 2.1.5 Data bases 2.1.6 Observation 2.2 Collection methods may include: 2.2.1 Indexing 2.2.2 linking 2.2.3 Sorting 2.2.4 Comparing 2.2.5 Categorizing 2.2.6 Integrating
3. Analysis	May include: 3.1. application of statistical methods 3.2. mathematical calculations 3.3. critical analysis 3.4. problem solving
4. Management Information Systems	May include: 4.1. Computers 4.2. Communication channels 4.3. Records management 4.4. Procedures 4.5. Manuals 4.6. Protocol 4.7. Legislation 4.8. Guidelines and awards 4.9. Organizational 4.10. Legal and policy materials

EVIDENCE GUIDE

<p>1. Critical Aspects of Competency</p>	<p>Assessment requires evidence that the candidate:</p> <ul style="list-style-type: none"> 1.1 Identified information needs and sources 1.2 Collected and analyzed information 1.3 Determined the correct / preventive action 1.4 Used management information systems 1.5 Record and support information <p>These aspects may be best assessed using a range of scenarios what ifs as a stimulus with a walk through forming part of the response. These assessment activities should include a range of problems, including new, unusual and improbable situations that may have happened.</p>
<p>2. Resource Implications</p>	<p>Specific resources for assessment</p> <ul style="list-style-type: none"> 2.1 Evidence of competent performance should be obtained by observing an individual in an information management role within the workplace or operational or simulated environment.
<p>3. Methods of Assessment</p>	<p>Competency in this unit may be assessed through:</p> <ul style="list-style-type: none"> 3.1 Written Test 3.2 Interview <p>The unit will be assessed in a holistic manner as is practical and may be integrated with the assessment of other relevant units of competency. Assessment will occur over a range of situations, which will include disruptions to normal, smooth operation. Simulation may be required to allow for timely assessment of parts of this unit of competency. Simulation should be based on the actual workplace and will include walk through of the relevant competency components.</p>
<p>4. Context for Assessment</p>	<ul style="list-style-type: none"> 4.1 In all workplace, it may be appropriate to assess this unit concurrently with relevant teamwork or operation units.

UNIT OF COMPETENCY : LEAD IN IMPROVEMENT OF OCCUPATIONAL SAFETY AND HEALTH (OSH) PROGRAMS, POLICIES AND PROCEDURES

UNIT CODE : 500311407

UNIT DESCRIPTOR : This unit covers the knowledge, skills and attitudes required to assess Occupational Safety and Health (OSH) practices and programs, recommend OSH program improvement initiatives, and implement recommended improvements on Occupational Safety and Health (OSH) Programs, Procedures and Policies

ELEMENT	PERFORMANCE CRITERIA <i>Italicized terms are elaborated in the Range of Variables</i>	REQUIRED KNOWLEDGE	REQUIRED SKILLS
1. Assess Occupational Safety and Health (OSH) practices and programs	1.1 <i>OSH practices and programs</i> are reviewed based on workplace policies and procedures 1.2 Appropriate personnel or <i>OSH reference guides</i> are consulted for proper guidance based on workplace policies and procedures 1.3 Current practices and programs are evaluated based on acceptable level of OSH work standards	1.1 OSH practices and programs workplace policies and procedures 1.2 OSH reference guides 1.3 OSH work standards	1.1 Critical thinking skills 1.2 Evaluating skills
2. Recommend OSH program improvement initiatives	2.1 OSH work improvement initiatives are identified that are relevant with the workplace scenario 2.2 OSH program improvement plans are organized based on workplace policies and procedures 2.3 OSH program improvement plans are presented based on workplace policies and procedures	2.1 OSH Programs 2.2 OSH work improvement initiatives	2.1 Presentation Skills 2.2 Communication skills 2.3 Collaborating skills 2.4 Critical thinking skills 2.5 Observation skills
3. Implement recommended	3.1 Approved improvements on OSH work	3.1 Coaching Concepts	3.1 Monitoring Skills 3.2 Evaluation Skills 3.3 Auditing Skills

<p>improvements on Occupational Safety and Health (OSH) Programs, Procedures and Policies</p>	<p>improvement initiatives are communicated based on workplace policies and procedures</p> <p>3.2 Concern personnel are guided in accordance with workplace policies and procedures</p> <p>3.3 Implementation of the approved OSH initiatives are monitored in accordance with workplace policies and procedures</p> <p>3.4 Implementation of approved OSH initiatives are evaluated based on workplace policies and procedures</p>	<p>3.2 OSH work improvement initiatives</p> <p>3.3 Supervisory Concepts</p>	<p>3.4 Coaching Skills</p> <p>3.5 Supervisory Skills</p>
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RANGE OF VARIABLES

VARIABLE	RANGE
1. OSH Practices and Programs	May include but not limited to: 1.1 Planning, implementation and maintenance of manufacturing plants 1.2 Work-physiological, psychological, ergonomic and hygienic practices and programs 1.3 First aid within the workplace 1.4 Safety inspection practices
2. OSH Reference Guides	May include but not limited to: 2.1 Occupational Safety and Health Standards Book 2.2 OSHA Safety Bulletins and Magazines 2.3 Equipment Safety Operating Instructions 2.4 Established National Safety Management Books 2.5 Credible OSH Web-sites 2.6 Safety Solution Guide Books and Handbooks
3. OSH Work Improvement Initiatives	May include but not limited to: 3.1 Eliminate the hazard altogether (i.e., get rid of the dangerous machine) 3.2 Isolate the hazard from anyone who could be harmed (i.e., keep the machine in a closed room and operate it remotely; barricade an unsafe area off) 3.3 Substitute the hazard with a safer alternative (i.e., replace the machine with a safer one) 3.4 Use administrative controls to reduce the risk (i.e., train workers how to use equipment safely; train workers about the risks of harassment; issue signage) 3.5 Use engineering controls to reduce the risk (i.e., attach guards to the machine to protect users) 3.6 Use personal protective equipment (i.e., wear gloves and goggles when using the machine)

EVIDENCE GUIDE

1. Critical Aspects of Competency	<p>Assessment requires evidence that the candidate:</p> <ul style="list-style-type: none"> 1.1. Consult appropriate personnel or OSH reference guides for proper guidance based on workplace policies and procedures 1.2. Evaluate current practices and programs based on acceptable level of OSH work standards 1.3. Identify OSH work improvement initiatives that are relevant with the workplace scenario 1.4. Present OSH program improvement plans based on workplace policies and procedures 1.5. Communicate approved improvements on OSH work program initiatives based on workplace policies and procedures 1.6. Monitor implementation of the approved OSH initiatives in accordance with workplace policies and procedures 1.7. Evaluate implementation of approved OSH initiatives based on workplace policies and procedures
2. Resource Implications	<p>The following resources should be provided:</p> <ul style="list-style-type: none"> 2.1 Workplace or assessment location 2.2 OSH personal records 2.3 PPE 2.4 Health records
3. Methods of Assessment	<p>Competency in this unit may be assessed through:</p> <ul style="list-style-type: none"> 3.1 Portfolio Assessment 3.2 Interview 3.3 Case Study/Situation 3.4 Observation/Demonstration and oral questioning
4. Context for Assessment	<ul style="list-style-type: none"> 4.1 Competency may be assessed in the work place or in a simulated work place setting

UNIT OF COMPETENCY : LEAD TOWARDS IMPROVEMENT OF ENVIRONMENTAL WORK PROGRAMS, POLICIES AND PROCEDURES

UNIT CODE : 500311408

UNIT DESCRIPTOR : This unit covers the knowledge, skills and attitudes required in assessing environmental work practices and standards, recommending environmental work improvement initiatives and implementing recommended environmental improvements

ELEMENTS	PERFORMANCE CRITERIA <i>Italicized terms</i> are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
1. Assess environmental work practices and programs	1.1 Environmental practices and programs are reviewed based on workplace policies 1.2 Appropriate personnel or environmental reference guides are consulted for proper guidance based on workplace policies* 1.3 Current practices and programs are evaluated based on acceptable level of environmental work standards*	1.1 Environmental Practices 1.2 Environmental Reference Guides 1.3 Corrective Action and Follow-up 1.4 Relevant environmental experts 1.5 Re-Training Needs 1.6 Energy and Healthy Habits	1.1 Critical thinking 1.2 Problem solving 1.3 Observation Skills 1.4 Training Delivery Skills
2. Recommend environmental program improvements initiatives	2.1 Environment practices opportunities are Identified that are relevant with the workplace scenario 2.2 Environmental program improvement plans are organized based on workplace policies and procedures* 2.3 Environmental program improvement plans are presented based on workplace policies and procedures*	2.1 Environmental Practices and Standards 2.2 Mitigation Requirements	2.1 Presentation Skills 2.2 Critical thinking 2.3 Problem Solving 2.4 Observation Skills 2.5 Training Delivery Skills 2.6 Cost-Benefit Analysis
3. Implement recommended improvements	3.1 Approved improvements on environmental work	3.1 Environmental Work Initiatives	3.1 Inspection Skills 3.2 Critical thinking

on environmental programs, policies and procedures	<p>program initiatives are promoted based on workplace policies and procedures</p> <p>3.2 Implementation of the approved environmental initiatives are monitored in accordance with workplace policies and procedures</p> <p>3.3 Implementation of approved environmental initiatives are evaluated based on workplace policies and procedures</p>	<p>3.2 Communication Strategies</p> <p>3.3 Environmental inspection and Monitoring Techniques</p> <p>3.4 Notification Requirements</p>	<p>3.3 Problem Solving</p> <p>3.4 Observation Skills</p>
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RANGE OF VARIABLES

VARIABLE	RANGE
1. Environmental Practices and Programs	May include: 1.1 Utilization of Energy, Water 1.2 Segregation Practices 1.3 Waste Disposal and Reuse 1.4 Saving Resources 1.5 Waste Collection 1.6 Usage of Hazardous Materials 1.7 Chemical Application 1.8 Equipment Operation 1.9 Dewatering and Discharging 1.10 Surface Disturbance 1.11 Periodic Inspection 1.12 Resource Storage and Handling
2. Environmental Reference Guides	May include: 2.1 Air Emission and Ambient Air Quality Guidelines 2.2 Energy Conservation Guidelines 2.3 Wastewater and Ambient Water Quality Guidelines 2.4 Water Conservation Guidelines 2.5 Hazardous Materials Management 2.6 Waste Management 2.7 Noise 2.8 Contaminated Land 2.9 Cultural Conservation Guides
3. Environmental Work Program Initiatives	May include: 3.1 Low Energy Lighting 3.2 Water Reduction Initiatives 3.3 Holding Employee Awareness event 3.4 Recycling Waste Materials 3.5 Unplugging power converters overnight 3.6 Tree-Planting 3.7 Wild-life conservation

EVIDENCE GUIDE

1. Critical Aspects of Competency	<p>Assessment requires evidence that the candidate:</p> <ul style="list-style-type: none"> 1.1 Consulted appropriate personnel or environmental reference guides for proper guidance based on workplace policies* 1.2 Evaluated current practices and standards based acceptable level of environmental work standards 1.3 Organized environmental standard improvement plans based on workplace policies and procedures 1.4 Presented environmental standard improvement plans based on workplace policies and procedures* 1.5 Promoted approved environmental work initiatives based on workplace policies and procedures 1.6 Evaluated the implementation of approved environmental improvements based on workplace policies and procedures
2. Resource Implications	<p>The following resources should be provided:</p> <ul style="list-style-type: none"> 2.1 Workplace/Assessment location 2.2 Legislation, policies, procedures, protocols and local ordinances relating to environmental protection 2.3 Case studies/scenarios relating to environmental protection
3. Methods of Assessment	<p>Competency in this unit may be assessed through:</p> <ul style="list-style-type: none"> 3.1 Written/ Oral Examination 3.2 Interview/Third Party Reports 3.3 Portfolio (citations/awards from GOs and NGOs, certificate of training – local and abroad) 3.4 Simulations and role-plays
4. Context for Assessment	<ul style="list-style-type: none"> 4.1 Competency may be assessed in actual workplace or at the designated TESDA Center.

UNIT OF COMPETENCY : SUSTAIN ENTREPRENEURIAL SKILLS

UNIT CODE : 500311409

UNIT DESCRIPTOR : This unit covers the outcomes required to update and continue one's professional development along entrepreneurship, including applying such growth in skills toward expanding the enterprise and developing its work force.

ELEMENT	PERFORMANCE CRITERIA <i>Italicized terms</i> are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
1. Enhance one's business skills	1.1 Entrepreneurial skills development needs are identified and responded to promptly. 1.2 Market trends are monitored, anticipated and taken advantage of where feasible. 1.3 New technologies, products and processes are included/utilized where advantageous to the enterprise. 1.4 Constant dialog/linkages with other entrepreneurs/peers and stakeholders are maintained 1.5 Circulation and participation in business fora, meetings, conventions and exhibits are maintained.	1.1 Business models and strategies 1.2 Types and categories of businesses 1.3 Business internal controls 1.4 Market Trends 1.5 Relevant national and local legislation and regulations 1.6 Basic quality control and assurance concepts	1.1 Basic bookkeeping/accounting skills 1.2 Communication skills 1.3 Building relations with customer and employees 1.4 Building competitive advantage of the enterprise 1.5 Networking and Linkaging skills
2. Manage entrepreneurial practices	2.1 Ideas and comments for improvements are sought from workers and clients. 2.2 Staff/workers are encouraged and supported in their	2.1 Public relations concepts 2.2 Basic product promotion strategies 2.3 Basic market and feasibility studies	2.1 Building customer relations 2.2 Individual marketing skills

	<p>skills development and enhancement.</p> <p>2.3 A culture of continuous improvement is fostered within the enterprise.</p> <p>2.4 Innovations on the existing lines of products and services are encouraged</p>	2.4 Basic business ethics	2.3 Using basic advertising (posters/ tarpaulins, flyers, social media, etc.)
3. Expand markets and clientele	<p>3.1 Enterprise is built up and sustained through judicious control of cash flows.</p> <p>3.2 Profitability of enterprise is ensured through appropriate internal controls.</p> <p>3.3 Unnecessary or lower-priority expenses and purchases are avoided.</p> <p>3.4 New markets and clients are identified based on current market trends</p>	<p>3.1 Basic cost benefit analysis</p> <p>3.2 Basic financial management</p> <p>3.3 Basic financial accounting</p> <p>3.4 Business internal controls</p>	<p>3.1 Setting business priorities and strategies</p> <p>3.2 Interpreting basic financial statements</p> <p>3.3 Preparing business plans</p>

RANGE OF VARIABLES

VARIABLE	RANGE
1. Entrepreneurial Skills	<p>May include:</p> <p>1.1 Financial management skills</p> <p>1.2 People management skills</p> <p>1.3 Operations management skills</p> <p>1.4 Business acumen</p>
2. Business Operations	<p>May include:</p> <p>2.1 Purchasing</p> <p>2.2 Accounting/Administrative work</p> <p>2.3 Production/Operations/Sales</p>
3. Internal Controls	<p>May include:</p> <p>3.1 Accounting systems</p> <p>3.2 Financial statements/reports</p> <p>3.3 Cash management</p> <p>3.4 Managing property, plant and equipment</p>

4. Continuous Improvement	<p>May include:</p> <p>4.1 Quality management systems (PDCA, ISO 9001, TQM, Six-Sigma, etc.)</p> <p>4.2 Client feedback systems</p> <p>4.3 Quality assurance/Quality control systems</p>
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EVIDENCE GUIDE

1. Critical Aspects of Competency	<p>Assessment requires evidence that the candidate:</p> <p>1.1 Demonstrated enhancement of one's entrepreneurial skills through performance of business, supervisor evaluation, worker and client testimony</p>
2. Resource Implications	<p>The following resources should be provided:</p> <p>2.1 Interview guide for entrepreneurs, enterprise workers and third parties</p> <p>2.2 Materials and location relevant to the proposed activity and tasks</p>
3. Methods of Assessment	<p>Competency in this unit may be assessed through:</p> <p>3.1 Written report</p> <p>3.2 Written examination</p> <p>3.3 Demonstration/observation with oral questioning</p> <p>3.4 Portfolio assessment with interview</p> <p>3.5 Third-party report</p>
4. Context of Assessment	<p>4.1 Competency may be assessed in workplace or in a simulated workplace setting</p> <p>4.2 Assessment shall be observed while tasks are being undertaken whether individually or in-group</p>

COMMON COMPETENCIES

UNIT TITLE : **APPLY QUALITY STANDARDS**
UNIT CODE : **ICT315202**
UNIT DESCRIPTOR : This unit covers the knowledge, skills, attitudes and values needed to apply quality standards in the workplace. The unit also includes the application of relevant safety procedures and regulations, organization procedures and customer requirements.

ELEMENT	PERFORMANCE CRITERIA <i>Italicized terms</i> are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
1. Assess quality of received materials	1.1. Work instruction is obtained and work is carried out in accordance with standard operating procedures. 1.2. Received materials are checked against workplace standards and specifications. 1.3. Faulty materials related to work are identified and isolated. 1.4. Faults and any identified causes are recorded and/or reported to the supervisor concerned in accordance with workplace procedures. 1.5. Faulty materials are replaced in accordance with workplace procedures.	1.1. Relevant production processes, materials and products 1.2. Characteristics of materials, software and hardware used in production processes 1.3. Quality checking procedures 1.4. Quality Workplace procedures 1.5. Identification of faulty materials related to work	1.1. Reading skills required to interpret work instruction 1.2. Critical thinking 1.3. Interpreting work instructions
2. Assess own work	2.1 Documentation relative to quality within the company is identified and used. 2.2 Completed work is checked against workplace standards relevant to the task undertaken. 2.3 Errors are identified and isolated. 2.4 Information on the quality and other indicators of production performance are recorded in accordance with workplace procedures. 2.5 In cases of deviations from specific quality standards , causes are documented and reported in accordance with the workplace's standards operating procedures.	2.1. Safety and environmental aspects of production processes 2.2. Fault identification and reporting 2.3. Workplace procedure in documenting completed work 2.4. Workplace Quality Indicators	2.1. Carry out work in accordance with OHS policies and procedures

ELEMENT	PERFORMANCE CRITERIA <i>Italicized terms</i> are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
3. Engage in quality improvement	3.1 Process improvement procedures are participated in relative to workplace assignment. 3.2 Work is carried out in accordance with process improvement procedures. 3.3 Performance of operation or quality of product of service to ensure customer satisfaction is monitored.	3.1. Quality improvement processes 3.2. Company customers defined	3.1. Solution providing and decision-making 3.2. Practice company process improvement procedure

RANGE OF VARIABLES

VARIABLE	RANGE
1 Materials	1.1 Materials may include but not limited to: 1.1.1. Manuals 1.1.2. Job orders 1.1.3. Instructional videos
2 Faults	2.1 Faults may include but not limited to: 2.1.1. Materials not to specification 2.1.2. Materials contain incorrect/outdated information 2.1.3. Hardware defects 2.1.4. Materials that do not conform with any regulatory agencies
3 Documentation	3.1 Organization work procedures 3.2 Manufacturer's instruction manual 3.3 Customer requirements 3.4 Forms
4 Errors	4.1 Errors may be related but not limited to the following: 4.1.1. Deviation from the requirements of the Client 4.1.2. Deviation from the requirement of the organization
5 Quality standards	5.1 Quality standards may be related but not limited to the following: 5.1.1. Materials 5.1.2. Hardware 5.1.3. Final product 5.1.4. Production processes 5.1.5. Customer service
6 Customer	6.1 Co-worker 6.2 Supplier/Vendor 6.3 Client 6.4 Organization receiving the product or service

EVIDENCE GUIDE

1 Critical aspect of competency	Assessment requires evidence that candidate: 1.1 Carried out work in accordance with the company's standard operating procedures 1.2 Performed task according to specifications 1.3 Reported defects detected in accordance with standard operating procedures 1.4 Carried out work in accordance with the process improvement procedures
2 Method of assessment	The assessor may select two (2) of the following assessment methods to objectively assess the candidate: 2.1 Observation 2.2 Questioning 2.3 Practical demonstration
3 Resource implication	3.1 Materials, software and hardware to be used in a real or simulated situation
4 Context of Assessment	4.1 Assessment may be conducted in the workplace or in a simulated environment

UNIT TITLE : **PERFORM COMPUTER OPERATIONS**
UNIT CODE : ICT311203
UNIT DESCRIPTOR : This unit covers the knowledge, skills, (and) attitudes and values needed to perform computer operations which include inputting, accessing, producing and transferring data using the appropriate hardware and software

ELEMENT	PERFORMANCE CRITERIA <i>Italicized terms</i> are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
1. Plan and prepare for task to be undertaken	1.1. Requirements of task are determined 1.2. Appropriate hardware and software are selected according to task assigned and required outcome 1.3. Task is planned to ensure OH&S guidelines and procedures are followed	1.1. Main types of computers and basic features of different operating systems 1.2. Main parts of a computer 1.3. Information on hardware and software 1.4. Data security guidelines	1.1. Reading and comprehension skills required to interpret work instruction and to interpret basic user manuals. 1.2. Communication skills to identify lines of communication, request advice, follow instructions and receive feedback. 1.3. Interpreting user manuals and security guidelines
2. Input data into computer	2.1. Data are entered into the computer using appropriate program/application in accordance with company procedures 2.2. Accuracy of information is checked and information is saved in accordance with standard operating procedures 2.3. Inputted data are stored in storage media according to requirements 2.4. Work is performed within ergonomic guidelines	2.1. Basic ergonomics of keyboard and computer user 2.2. Storage devices and basic categories of memory 2.3. Relevant types of software	2.1. Technology skills to use equipment safely including keyboard skills. 2.2. Entering data
3. Access information using computer	3.1. Correct program/application is selected based on job requirements 3.2. Program/application containing the information required is accessed according to company procedures 3.3. Desktop icons are correctly selected, opened and closed for navigation purposes	3.1. General security, privacy legislation and copyright 3.2. Productivity Application 3.3. Business Application	3.1. Accessing information 3.2. Searching and browsing files and data

ELEMENT	PERFORMANCE CRITERIA <i>Italicized terms</i> are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
	3.4. Keyboard techniques are carried out in line with OH&S requirements for safe use of keyboards		
4. Produce/output data using computer system	4.1. Entered data are processed using appropriate software commands 4.2. Data printed out as required using computer hardware/peripheral devices in accordance with standard operating procedures 4.3. Files, data are transferred between compatible systems using computer software, hardware/peripheral devices in accordance with standard operating procedures	4.1. Computer application in printing, scanning and sending facsimile 4.2. Types and function of computer peripheral devices	4.1. Computer data processing 4.2. Printing of data 4.3. Transferring files and data
5. Maintain computer equipment and systems	5.1. Systems for cleaning, minor maintenance and replacement of consumables are implemented 5.2. Procedures for ensuring security of data, including regular back-ups and virus checks are implemented in accordance with standard operating procedures 5.3. Basic file maintenance procedures are implemented in line with the standard operating procedures	5.1 Computer equipment/system basic maintenance procedures 5.2 Viruses 5.3 OH&S principles and responsibilities 5.4 Calculating computer capacity 5.5 System Software 5.6 Basic file maintenance procedures	5.1 Removing computer viruses from infected machines 5.2 Making backup files

RANGE OF VARIABLES

VARIABLE	RANGE
1. Hardware and peripheral devices	1.1. Personal computers 1.2. Networked systems 1.3. Communication equipment 1.4. Printers 1.5. Scanners 1.6. Keyboard 1.7. Mouse
2. Software	Software includes the following but not limited to: 2.1. Word processing packages 2.2. Data base packages 2.3. Internet 2.4. Spreadsheets
3. OH & S guidelines	3.1. OHS guidelines 3.2. Enterprise procedures
4. Storage media	Storage media include the following but not limited to: 4.1. Cloud storage 4.2. CDs 4.3. Thumb drive 4.4. hard disk drives, local and remote
5. Ergonomic guidelines	5.1. Types of equipment used 5.2. Appropriate furniture 5.3. Seating posture 5.4. Lifting posture 5.5. Visual display unit screen brightness
6. Desktop icons	Icons include the following but not limited to: 6.1. directories/folders 6.2. files 6.3. network devices 6.4. recycle bin
7. Maintenance	7.1. Creating more space in the hard disk 7.2. Reviewing programs 7.3. Deleting unwanted files 7.4. Backing up files 7.5. Checking hard drive for errors 7.6. Using up to date security solution programs 7.7. Cleaning dust from internal and external surfaces

EVIDENCE GUIDE

1. Critical aspect of competency	Assessment requires evidence that the candidate: 1.1. Selected and used hardware components correctly and according to the task requirement 1.2. Identified and explain the functions of both hardware and software used, their general features and capabilities 1.3. Produced accurate and complete data in accordance with the requirements 1.4. Used appropriate devices and procedures to transfer files/data accurately 1.5. Maintained computer system
2. Method of assessment	2.1. The assessor may select two of the following assessment methods to objectively assess the candidate: 2.1.1. Observation 2.1.2. Questioning 2.1.3. Practical demonstration
3. Resource implication	3.1. Computer hardware with peripherals 3.2. Appropriate software
4. Context of Assessment	4.1. Assessment may be conducted in the workplace or in a simulated work environment

CORE COMPETENCIES

UNIT OF COMPETENCY: MANAGE NETWORK SECURITY

UNIT CODE: CS-ICT251120

UNIT DESCRIPTOR: This unit covers the outcomes required in identifying threats to network security, maintaining and improve network security assessing network security threats and vulnerabilities

ELEMENT	PERFORMANCE CRITERIA <i>Italicized terms</i> are elaborated in the Range of Variables	Required Knowledge	Required Skills
1. Identify threats to network security	1.1 <i>Major threat themes to network security</i> are determined based on cybersecurity standards 1.2 <i>Potential origin of major threats to network</i> are determined following company security design specifications 1.3 <i>Industry standard common network vulnerability types</i> are identified based on cybersecurity standards 1.4 Security model is developed according to network security design specifications	1.1 Network Foundations 1.1.1 Network Types and Topologies 1.1.2 Network Devices 1.1.3 Network Architecture 1.1.4 Physical and Logical Addresses 1.2 Access Control 1.3 Firewall Foundation 1.4 ISO 27001 1.5 NIST Cybersecurity Framework 1.6 CIS Controls 1.7 Cybersecurity Fundamentals 1.6.1 Types of Cyber attackers 1.6.2 Vulnerabilities 1.6.3 Exploits 1.6.4 Threats 1.6.5 APT investigation	1.1 Computer Operation skills 1.2 Analytical Skills 1.3 Digital literacy 1.4 Digital forensics 1.5 Legal and ethical understanding
2. Maintain and improve network security	2.1 Logs and audit reports to identify and record security incidents, intrusions and attempts are reviewed	2.1 Security Information and Event Management (SIEM)	2.1 Computer operation skills 2.2 Documentation skills

	<p>following cybersecurity standards</p> <p>2.2 Spot checks and audits to ensure that procedures are not being bypassed are carried-out following cybersecurity standards</p> <p>2.3 Document newly discovered security threats vulnerabilities and recommendations following company procedures</p> <p>2.4 Documented newly discovered security threats vulnerabilities and recommendations are submitted to required personnel in accordance with company procedures</p>	<p>2.2 Log Analysis Techniques</p> <p>2.3 Splunk</p> <p>2.4 Vulnerability Management</p> <p>2.5 NIST Cybersecurity Framework</p> <p>2.6 CIS control</p> <p>2.7 Cryptography</p> <p>2.8 IDS & IPS Foundation</p>	<p>2.3 Communication skills</p> <p>2.4 Analytical skills</p> <p>2.5 Problem-Solving Skills</p> <p>2.6 Time Management skills</p> <p>2.7 Legal and ethical understanding</p> <p>2.8</p>
2.9 Assess network security threats and vulnerabilities	<p>9.1 Current system security against organizational asset security requirements is reviewed to identify security threats and vulnerabilities following cybersecurity standards</p> <p>9.2 Network, software, hardware and system security threats and vulnerabilities are analyzed following the priority deficiencies to be addressed</p> <p>9.3 Recommendations to management to address security deficiencies are developed according to organizational asset security requirements</p>	<p>1.1 MITRE ATT&CK framework</p> <p>1.2 Security Information and Event Management (SIEM)</p> <p>1.3 IDS & IPS Foundation</p> <p>1.4 Vulnerability Management</p> <p>1.5 Threat intelligence cycle</p> <p>1.6 Diamond Model</p> <p>1.7 Formulating recommendations</p> <p>1.8</p>	<p>1.1 Computer operation skills</p> <p>1.2 Analytical Skills</p> <p>1.3 Digital literacy</p> <p>1.4 Digital forensics</p> <p>1.5 Attention to detail</p> <p>1.6 Legal and ethical understanding</p>

RANGE OF VARIABLES

VARIABLE	RANGE
1. Major threat themes to network security	May include but not limited to: 1.1 Malware 1.2 Malicious code 1.3 Network attacks 1.4 Insider threats
2. Potential origin of major threats to network	May include but not limited to: 1.1 Hacktivists 1.2 Criminal groups 1.3 State-sponsored actors
3. Industry standard common network vulnerability types	May include but not limited to: 2.1 Insecure network protocols 2.2 Weak encryption 2.3 Zero-day exploits 2.4 Weak password management
4. Network, software, hardware and system security threats	May include but not limited to: 3.1 Network 3.1.1 Man-in-the-Middle (MitM) Attacks 3.1.2 Denial-of-Service (DoS) Attacks 3.1.3 Misconfigured Systems 3.2 Software 3.2.1 SQL Injection 3.2.2 Cross-site Scripting 3.2.3 Insecure Direct Object References (IDOR) 3.3 Hardware 3.3.1 Unauthorized access to physical devices (e.g. laptop, servers) 3.3.2 Firmware vulnerabilities 3.3.3 Hardware backdoors 3.4 System 3.4.1 Data breaches 3.4.2 Ransomware

EVIDENCE GUIDE

1. Critical aspects of competency	1.1 Identified threats to network security 1.2 Maintained and improve network security 1.3 Assessed network security threats and vulnerabilities
2. Resource implications	The following resources should be provided: 2.1 Facilities, equipment, tools, materials and supplies relevant to the unit of competency
3. Methods of assessment	Competency in this unit must be assessed through any or combination of the following: 3.1 Demonstration with questioning 3.2 Written Test 3.3 Oral questioning/interview
4. Context for assessment	4.1 Competency maybe assessed in actual workplace or at the designated TESDA accredited Assessment Center

UNIT OF COMPETENCY: CONDUCT PENETRATION TESTING

UNIT CODE: CS-ICT251121

UNIT DESCRIPTOR: This unit covers the outcomes required in preparing for penetration testing, conducting penetration tests, conducting follow up activities

ELEMENT	PERFORMANCE CRITERIA <i>Italicized terms</i> are elaborated in the Range of Variables	Required Knowledge	Required Skills
1. Prepare for penetration testing	<p>1.1 Existing cyber security environment, systems and network requirements are analyzed following cybersecurity industry standards</p> <p>1.2 Individual data types and level of security requirements are identified based on job requirements</p> <p>1.3 Goal and objectives of performing penetration testing are outlined and established based on cybersecurity industry standards</p> <p>1.4 Scanning tools are evaluated and selected according to vulnerability assessment requirements</p> <p>1.5 Testing regime and schedule, and requirements are established and documented according to company procedures</p>	<p>1.1 Office productivity applications</p> <p>1.2 Ethical hacking Foundation</p> <p>1.3 Network Foundations</p> <p>1.3.1 Network Types and Topologies</p> <p>1.3.2 Network Devices</p> <p>1.3.3 Network Architecture</p> <p>1.3.4 Physical and Logical Addresses</p> <p>1.4 ISO/IEC27001</p> <p>1.5 NIST Cybersecurity framework</p> <p>1.6 CIS Controls</p> <p>1.7 Vulnerability Assessment Tools</p> <p>1.8 Scanning tools</p>	<p>1.1 Computer operation skills</p> <p>1.2 Analytical thinking skills</p> <p>1.3 Problem-solving skills</p> <p>1.4 Data Classification skills</p> <p>1.5 Tool Evaluation and selection</p> <p>1.6 Legal and Ethical understanding</p>
2. Conduct penetration tests	<p>2.1 Penetration tests are performed according to testing plan and procedures</p> <p>2.2 Vulnerabilities arising from vulnerability assessment are documented based on cybersecurity industry standards</p> <p>2.1 Potential threats arising from penetration test are identified and documented</p>	<p>2.1 Penetration Testing Methodologies</p> <p>2.2 Vulnerability Assessment Documentation</p> <p>2.3 Testing Plans and Procedures</p> <p>2.4 Cybersecurity Fundamentals</p>	<p>2.1 Computer operation skills</p> <p>2.2 Penetration Testing Execution Skills</p> <p>2.3 Critical thinking</p> <p>2.4 Documentation Skills</p>

	according to organizational and testing procedures		2.5 Legal and Ethical understanding
3. Conduct follow up activities	<p>3.1 Identified vulnerabilities are remediated according to testing procedures</p> <p>3.2 Improvement plan is determined and documented based on company procedures</p> <p>3.3 Penetration testing effectiveness against testing plan and procedures are evaluated based on cybersecurity industry standards</p> <p>3.5 Unresolved vulnerabilities to are escalated to required personnel in accordance with company procedures</p> <p>3.6 Documentation is submitted to required personnel in accordance with company procedures</p> <p>3.7 Feedback is responded effectively in accordance with company procedures</p>	<p>2.1 Penetration Testing Methodologies</p> <p>2.2 Knowledge of common remediation techniques</p> <p>2.3 Documentation and Reporting procedures</p> <p>2.4 Vulnerability Management</p>	<p>3.1 Effective communication skills</p> <p>3.2 Penetration testing skills</p> <p>3.3 Documentation skills</p> <p>3.4 Problem-solving skills</p> <p>3.5 Legal and Ethical understanding</p>

RANGE OF VARIABLES

VARIABLE	RANGE
1. Individual data types	May include but not limited to: 1.1 High sensitivity 1.2 Medium sensitivity 1.3 Low sensitivity
2. level of security requirements	May include but not limited to: 2.1 Basic security check 2.2 Standard penetration test 2.3 Advanced penetration test 2.4 Security posture assessment
3. Goal and objectives of performing penetration testing	May include but not limited to: 3.1 Enhance Overall Security 3.2 Identify Vulnerabilities 3.3 Assess Exploitability 3.4 Simulate Real-World Attacks
4. Scanning tools	May include but not limited to: 4.1 Network scanners 4.2 Vulnerability scanners 4.3 Web application security scanners 4.4 Password cracking tools 4.5 Wireless network scanners 4.6 Exploit kits and frameworks
5. Penetration tests	May include but not limited to: 5.1 Web application penetration testing 5.2 Network penetration testing 5.3 Social engineering penetration testing 5.4 Wireless network penetration testing
6. Vulnerabilities arising from vulnerability assessment	May include but not limited to: 6.1 Unpatched software 6.2 Misconfigured systems 6.3 Weak passwords 6.4 Insecure wi-fi networks 6.5 Unsecured remote access 6.6 Cross-Site Scripting (XSS)
7. Potential threats arising from penetration test	May include but not limited to: 7.1 Malware 7.2 Social engineering attacks 7.3 Denial-of-Service (DoS) Attacks 7.4 Man-in-the-Middle (MitM) Attacks 7.5 Accidental insider threats
8. Required personnel	May include but not limited to: 8.1 Client 8.2 Chief Information Security Officer (CISO) 8.3 IT Director 8.4 Security analyst

EVIDENCE GUIDE

1. Critical aspects of competency	1.1 Prepared for penetration testing 1.2 Conducted penetration tests 1.3 Conducted follow up activities
2. Resource implications	The following resources should be provided: 2.1 Facilities, equipment, tools, materials and supplies relevant to the unit of competency
3. Methods of assessment	Competency in this unit must be assessed through any or combination of the following: 3.1 Demonstration with questioning 3.2 Written Test 3.3 Oral questioning/interview
4. Context for assessment	4.1 Competency maybe assessed in actual workplace or at the designated TESDA accredited Assessment Center

GLOSSARY OF TERMS

Audit Reports	Documents detailing the findings of audits or assessments, often including identified vulnerabilities, compliance status, and recommendations for remediation.
CIS Controls	A set of prioritized cybersecurity best practices developed by the Center for Internet Security (CIS) to help organizations defend against common cyber threats and attacks.
Ethical Hacking	The practice of testing computer systems, networks, or applications for security vulnerabilities, with permission, to identify weaknesses and suggest remediation measures.
Logs	Records of events, actions, or transactions occurring within an IT system or network, often used for troubleshooting, security monitoring, and forensic analysis.
Network	A group of interconnected computers, devices, or systems that can communicate with each other, typically sharing resources and information.
Network Security	The practice of protecting computer networks and their components from unauthorized access, misuse, modification, or denial of service attacks.
NIST (National Institute of Standards and Technology)	A U.S. government agency responsible for developing and promoting standards, guidelines, and best practices to enhance the security and resilience of information systems.
OSI Model (Open Systems Interconnection model)	A conceptual framework that standardizes the functions of communication systems into seven layers, facilitating interoperability and understanding of network protocols.
Penetration Test	A simulated cyberattack conducted by security professionals to identify vulnerabilities in an organization's IT systems, networks, or applications.
Risks	Potential events or incidents that may negatively impact an organization's operations, assets, or objectives, often resulting from the exploitation of vulnerabilities.
Scanning Tools	Software applications used to automatically search for security vulnerabilities in IT systems, networks, or applications, often employing techniques like port scanning and vulnerability scanning.
Security Model	A framework or architecture that defines the security requirements, controls, and mechanisms necessary to protect an organization's assets and data from security threats and risks.
Threats	Potential dangers or risks that could exploit vulnerabilities in systems, networks, or applications, posing harm to an organization's operations, assets, or reputation.
Vulnerability	A weakness or flaw in a system, network, or application that could be exploited by an attacker to compromise the confidentiality, integrity, or availability of data or resources.

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