COMPETENCY STANDARDS

DATA COLLECTION AND ANNOTATION (DATA SCIENCE/ARTIFICIAL INTELLIGENCE) LEVEL II

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 groups 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.

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

1 Registration and delivery of training programs;
2 Development of curriculum and assessment instruments; and
3 Micro credential programs

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

DATA COLLECTION AND ANNOTATION (DATA SCIENCE/ARTIFICIAL INTELLIGENCE) LEVEL II

SECTION 1: DEFINITION OF QUALIFICATION

The **DATA COLLECTION AND ANNOTATION (DATA SCIENCE/ARTIFICIAL INTELLIGENCE) LEVEL II** Qualification consists of competencies that a person must achieve to effectively collect, organize, annotate, and ensure the quality of data for machine learning operations, ensuring reliable and accurate Data Science (DS) and AI model training and development.

The Units of Competency comprising this Qualification include the following:

UNIT CODE	BASIC COMPETENCIES
400311210	Participate in workplace communication
400311211	Work in team environment
400311212	Solve/address general workplace problems
400311213	Develop career and life decisions
400311214	Contribute to workplace innovation
400311215	Present relevant information
400311216	Practice occupational safety and health policies and procedures
400311217	Exercise efficient and effective sustainable practices in the workplace
400311218	Practice entrepreneurial skills in the workplace

UNIT CODE	COMMON COMPETENCIES
ICT315202	Apply quality standards
ICT311203	Perform computer operations
CS-ICT252101	Ensure compliance with data privacy and ethics

UNIT CODE	CORE COMPETENCIES
CS-ICT413201	Identify and prepare data sources
CS-ICT413202	Collect data and ensure basic data quality
CS-ICT413203	Perform data annotation and labeling

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

- AI Data Collector
- Data Collection Specialist
- Field Data Collector
- Data Collection Assistant
- AI Data Annotation and Labeling Specialist
- AI Data Annotation Specialist
- Data Labeler
- Annotation Technician
- Content Annotator

SECTION 2: COMPETENCY STANDARDS

This section gives the details of the contents of the units of competency required in **DATA COLLECTION AND ANNOTATION (DATA SCIENCE/ARTIFICIAL INTELLIGENCE) LEVEL II**

BASIC COMPETENCIES

UNIT OF COMPETENCY : **PARTICIPATE IN WORKPLACE COMMUNICATION**

UNIT CODE : **400311210**

UNIT DESCRIPTOR : This unit covers the knowledge, skills and attitudes required to gather, interpret and convey information in response to workplace requirements.

ELEMENT	PERFORMANCE CRITERIA *Italicized terms* are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
1. Obtain and convey workplace information	1.1. Specific and relevant information is accessed from ***appropriate sources*** 1.2. Effective questioning, active listening and speaking skills are used to gather and convey information. 1.3. Appropriate ***medium*** is used to transfer information and ideas 1.4. Appropriate non-verbal communication is used 1.5. Appropriate lines of communication with supervisors and colleagues	1.1. Effective verbal and nonverbal communication 1.2. Different modes of communication 1.3. Medium of communication in the workplace 1.4. Organizational policies 1.5. Communication procedures and systems 1.6. Lines of Communication 1.7. Technology relevant to the enterprise and the individual's work responsibilities 1.8. Workplace etiquette	1.1 Following simple spoken language 1.2 Performing routine workplace duties following simple written notices 1.3 Participating in workplace meetings and discussions 1.4 Preparing work-related documents 1.5 Estimating, calculating and recording routine workplace measures 1.6 Relating/ Interacting with people of various levels

ELEMENT	PERFORMANCE CRITERIA *Italicized terms* are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
	are identified and followed. 1.6. Defined workplace procedures for the location and ***storage*** of information are used 1.7. Personal interaction is carried out clearly and concisely		in the workplace 1.7 Gathering and providing basic information in response to workplace requirements 1.8 Basic business writing skills 1.9 Interpersonal skills in the workplace 1.10 Active-listening skills
2. Perform duties following workplace instructions	2.1 Written notices and instructions are read and interpreted in accordance with organizational guidelines 2.2 Routine written instructions are followed based on established procedures 2.3 Feedback is given to workplace supervisor-based instructions/ information received 2.4 ***Workplace interactions*** are conducted in a courteous manner 2.5 Where necessary, clarifications about routine workplace procedures and matters	2.1 Effective verbal and non-verbal communication 2.2 Different modes of communication 2.3 Medium of communication in the workplace 2.4 Organizational/ Workplace policies 2.5 Communication procedures and systems 2.6 Lines of communication 2.7 Technology relevant to the enterprise and the individual's work responsibilities 2.8 Effective questioning techniques (clarifying and probing) 2.9 Workplace etiquette	2.1 Following simple spoken instructions 2.2 Performing routine workplace duties following simple written notices 2.3 Participating in workplace meetings and discussions 2.4 Completing work-related documents 2.5 Estimating, calculating and recording routine workplace measures 2.6 Relating/ Responding to people of various levels in the workplace 2.7 Gathering and providing

ELEMENT	PERFORMANCE CRITERIA *Italicized terms* are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
	concerning conditions of employment are sought and asked from ***appropriate sources*** 2.6 Meetings outcomes are interpreted and implemented		information in response to workplace requirements 2.8 Basic questioning/ querying 2.9 Skills in reading for information 2.10 Skills in locating
3. Complete relevant work-related documents	4.1 Range of ***forms*** relating to conditions of employment are completed accurately and legibly. 4.2 Workplace data is recorded on standard workplace forms and documents. 4.3 Errors in recording information on forms/ documents are identified and acted upon. 4.4 Reporting requirements to supervisors are completed according to organizational guidelines.	3.1 Effective verbal and non-verbal communication 3.2 Different modes of communication 3.3 Workplace forms and documents 3.4 Organizational/ Workplace policies 3.5 Communicatio n procedures and systems 3.6 Technology relevant to the enterprise and the individual's work responsibilities	3.1 Completing work-related documents 3.2 Applying operations of addition, subtraction, division and multiplication 3.3 Gathering and providing information in response to workplace requirements 3.4 Effective record keeping skills

RANGE OF VARIABLES

VARIABLE	RANGE
1. Appropriate sources	May include but not limited to: 1.1 Team members 1.2 Supervisor/Department Head 1.3 Suppliers 1.4 Trade personnel 1.5 Local government 1.6 Industry bodies
2. Medium	May include but not limited to: 2.1 Memorandum 2.2 Circular 2.3 Notice 2.4 Information dissemination 2.5 Follow-up or verbal instructions 2.6 Face-to-face communication 2.7 Electronic media (disk files, cyberspace)
3. Storage	May include but not limited to: 3.1 Manual filing system 3.2 Computer-based filing system
4. Workplace interactions	May include but not limited to: 4.1 Face-to-face 4.2 Telephone 4.3 Electronic and two-way radio 4.4 Written including electronic means, memos, instruction and forms 4.5 Non-verbal including gestures, signals, signs and diagrams
5. Forms	May include but not limited to: 5.1 HR/Personnel forms, telephone message forms, safety reports

EVIDENCE GUIDE

1. Critical aspects of Competency	**Assessment requires evidence that the candidate:** 1.1 Prepared written communication following standard format of the organization 1.2 Accessed information using workplace communication equipment/systems 1.3 Made use of relevant terms as an aid to transfer information effectively 1.4 Conveyed information effectively adopting formal or informal communication
2. Resource Implications	**The following resources should be provided:** 2.1 Fax machine 2.2 Telephone 2.3 Notebook 2.4 Writing materials 2.5 Computer with Internet connection
3. Methods of Assessment	**Competency in this unit may be assessed through:** 3.1 Demonstration with oral questioning 3.2 Interview 3.3 Written test 3.4 Third-party report
4. Context for Assessment	4.1 Competency may be assessed individually in the actual workplace or through an accredited institution

UNIT OF COMPETENCY : WORK IN TEAM ENVIRONMENT

UNIT CODE : 400311211

UNIT DESCRIPTOR : This unit covers the skills, knowledge and attitudes to identify one's roles and responsibilities as a member of a team.

ELEMENT	PERFORMANCE CRITERIA *Italicized terms* are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
1. Describe team role and scope	1.1 The ***role and objective of the team*** is identified from available ***sources of information*** 1.2 Team parameters, reporting relationships and responsibilities are identified from team discussions and appropriate external sources	1.1 Group structure 1.2 Group development 1.3 Sources of information	1.1 Communicating with others, appropriately consistent with the culture of the workplace 1.2 Developing ways in improving work structure and performing respective roles in the group or organization
2. Identify one's role and responsibility within a team	2.1 Individual roles and responsibilities within the team environment are identified. 2.2 Roles and objectives of the team are identified from available ***sources of information*** 2.3 Team parameters, reporting relationships and responsibilities are identified based on team discussions and appropriate external sources	2.1 Team roles and objectives 2.2 Team structure and parameters 2.3 Team development 2.4 Sources of information	2.1 Communicating with others, appropriately consistent with the culture of the workplace 2.2 Developing ways in improving work structure and performing respective roles in the group or organization

ELEMENT	PERFORMANCE CRITERIA ***Italicized terms*** are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
3. Work as a team member	3.1 Effective and appropriate forms of communication are used and interactions undertaken with team members based on company practices. 3.2 Effective and appropriate contributions made to complement team activities and objectives, based on ***workplace context***. 3.3 Protocols in reporting are observed based on standard company practices. 3.4 Contribute to the development of teamwork plans based on an understanding of the team's role and objectives.	3.1 Communication Process 3.2 Workplace communication protocol 3.3 Team planning and decision making 3.4 Team thinking 3.5 Team roles 3.6 Process of team development 3.7 Workplace context	3.1 Communicating appropriately, consistent with the culture of the workplace 3.2 Interacting effectively with others 3.3 Deciding as an individual and as a group using group think strategies and techniques 3.4 Contributing to Resolution of issues and concerns

RANGE OF VARIABLES

VARIABLE	RANGE
1. Role and objective of team	May include but not limited to: 1.1 Work activities in a team environment with enterprise or specific sector 1.2 Limited discretion, initiative and judgment may be demonstrated on the job, either individually or in a team environment
2. Sources of information	May include but not limited to: 2.1 Standard operating and/or other workplace procedures 2.2 Job procedures 2.3 Machine/equipment manufacturer's specifications and instructions 2.4 Organizational or external personnel 2.5 Client/supplier instructions 2.6 Quality standards 2.7 OHS and environmental standards
3. Workplace context	May include but not limited to: 3.1 Work procedures and practices 3.2 Conditions of work environments 3.3 Legislation and industrial agreements 3.4 Standard work practice including the storage, safe handling and disposal of chemicals 3.5 Safety, environmental, housekeeping and quality guidelines

EVIDENCE GUIDE

1. Critical aspects of Competency	**Assessment requires evidence that the candidate:** 1.1 Worked in a team to complete workplace activity 1.2 Worked effectively with others 1.3 Conveyed information in written or oral form 1.4 Selected and used appropriate workplace language 1.5 Followed designated work plan for the job
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 Role play involving the participation of individual member to the attainment of organizational goal 3.2 Case studies and scenarios as a basis for discussion of issues and strategies in teamwork 3.3 Socio-drama and socio-metric methods 3.4 Sensitivity techniques 3.5 Written Test
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 task are being undertaken whether individually or in group

UNIT OF COMPETENCY : SOLVE/ADDRESS GENERAL WORKPLACE PROBLEMS

UNIT CODE : 400311212

UNIT DESCRIPTOR : This unit covers the knowledge, skills and attitudes required to apply problem-solving techniques to determine the origin of problems and plan for their resolution. It also includes addressing procedural problems through documentation, and referral.

ELEMENT	PERFORMANCE CRITERIA *Italicized terms* are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
1. Identify routine problems	1.1 Routine ***problems or procedural* problem** areas are identified 1.2 Problems to be investigated are defined and determined 1.3 Current conditions of the problem are identified and documented	1.1 Current industry hardware and software products and services 1.2 Industry maintenance, service and helpdesk practices, processes and procedures 1.3 Industry standard diagnostic tools 1.4 Malfunctions and resolutions	1.1 Identifying current industry hardware and software products and services 1.2 Identifying current industry maintenance, services and helpdesk practices, processes and procedures. 1.3 Identifying current industry standard diagnostic tools 1.4 Describing common malfunctions and resolutions. 1.5 Determining the root cause of a routine malfunction
2. Look for solutions to routine problems	2.1 Potential solutions to problems are identified 2.2 Recommendations about possible solutions are developed, **documented**,	2.1 Current industry hardware and software products and services 2.2 Industry service and helpdesk	2.1 Identifying current industry hardware and software products and services 2.2 Identifying services and helpdesk

ELEMENT	PERFORMANCE CRITERIA *Italicized terms* are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
	ranked and presented to the appropriate ***person*** for decision	practices, processes and procedures 2.3 Operating systems 2.4 Industry standard diagnostic tools 2.5 Malfunctions and resolutions. 2.6 Root cause analysis	practices, processes and procedures. 2.3 Identifying operating system 2.4 Identifying current industry standard diagnostic tools 2.5 Describing common malfunctions and resolutions. 2.6 Determining the root cause of a routine malfunction
3. Recommend solutions to problems	3.1 Implementation of solutions are **planned** 3.2 Evaluation of implemented solutions are planned 3.3 Recommended solutions are documented and submitted to the appropriate person for confirmation	3.1 Standard procedures 3.2 Documentation produce	3.1 Producing documentation that recommends solutions to problems 3.2 Following established procedures

RANGE OF VARIABLES

VARIABLE	RANGE
1. Problems/Procedural Problem	May include but not limited to: 1.1 Routine/non – routine processes and quality problems 1.2 Equipment selection, availability and failure 1.3 Teamwork and work allocation problem 1.4 Safety and emergency situations and incidents 1.5 Work-related problems outside of own work area
2. Appropriate person	May include but not limited to: 2.1 Supervisor or manager 2.2 Peers/work colleagues 2.3 Other members of the organization
3. Document	May include but not limited to: 3.1 Electronic mail 3.2 Briefing notes 3.3 Written report 3.4 Evaluation report
4. Plan	May include but not limited to: 4.1 Priority requirements 4.2 Coordination and feedback requirements 4.3 Safety requirements 4.4 Risk assessment 4.5 Environmental requirements

EVIDENCE GUIDE

1. Critical aspects of Competency	**Assessment requires evidence that the candidate:** 1.1 Determined the root cause of a routine problem 1.2 Identified solutions to procedural problems. 1.3 Produced documentation that recommends solutions to problems. 1.4 Followed established procedures. 1.5 Referred unresolved problems to support persons.
2. Resource Implications	2.1 Assessment will require access to a workplace over an extended period, or a suitable method of gathering evidence of operating ability over a range of situations.
3. Methods of Assessment	**Competency in this unit may be assessed through:** 3.1 Case Formulation 3.2 Life Narrative Inquiry 3.3 Standardized test 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.
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 : DEVELOP CAREER AND LIFE DECISIONS

UNIT CODE : 400311213

UNIT DESCRIPTOR : This unit covers the knowledge, skills, and attitudes in managing one's emotions, developing reflective practice, and boosting self-confidence and developing self-regulation.

ELEMENT	PERFORMANCE CRITERIA ***Italicized terms*** are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
1. Manage one's emotion	1.1. ***Self-management strategies*** are identified 1.2. Skills to work independently and to show initiative, to be conscientious, and persevering in the face of setbacks and frustrations are developed 1.3. Techniques for effectively handling negative emotions and ***unpleasant situations*** in the workplace are examined	1.1. Self-management strategies that assist in regulating behavior and achieving personal and learning goals (e.g. Nine self-management strategies according to Robert Kelley) 1.2. Enablers and barriers in achieving personal and career goals 1.3. Techniques in handling negative emotions and unpleasant situations in the workplace such as frustration, anger, worry, anxiety, etc.	1.1. Managing properly one's emotions and recognizing situations that cannot be changed and accept them and remain professional 1.2. Developing self-discipline, working independently and showing initiative to achieve personal and career goals 1.3. Showing confidence, and resilience in the face of setbacks and frustrations and other negative emotions and unpleasant situations in the workplace

ELEMENT	PERFORMANCE CRITERIA *Italicized terms* are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
2. Develop reflective practice	2.1. Personal strengths and achievements, based on self-assessment strategies and teacher feedback are contemplated 2.2. Progress when seeking and responding to feedback from teachers to assist them in consolidating strengths, addressing weaknesses and fulfilling their potential are monitored 2.3. Outcomes of personal and academic challenges by reflecting on previous problem solving and decision-making strategies and feedback from peers and teachers are predicted	2.1 Basic SWOT analysis 2.2 Strategies to improve one's attitude in the workplace 2.3 Gibbs' Reflective Cycle/Model (Description, Feelings, Evaluation, Analysis, Conclusion, and Action plan)	2.1 Using the basic SWOT analysis as self-assessment strategy 2.2 Developing reflective practice through realization of limitations, likes/ dislikes; through showing self-confidence 2.3 Demonstrating self-acceptance and being able to accept challenges
3. Boost self confidence and develop self regulation	3.1. Efforts for continuous self-improvement are demonstrated 3.2. Counter-productive tendencies at work are eliminated	3.1 Four components of self-regulation based on Self-Regulation Theory (SRT) 3.2 Personality development concepts 3.3 Self-help concepts (e. g.,	3.1 Performing effective communication skills – reading, writing, conversing skills 3.2 Showing affective skills – flexibility,

ELEMENT	PERFORMANCE CRITERIA *Italicized terms* are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
	3.3. Positive outlooks in life are maintained	7 Habits by Stephen Covey, transactional analysis, psycho-spiritual concepts)	adaptability, etc. 3.3 Self-assessment for determining one's strengths and weaknesses

RANGE OF VARIABLES

VARIABLE	RANGE
1. Self-management strategie	May include but not limited to: 1.1 Seeking assistance in the form of job coaching or mentoring 1.2 Continuing dialogue to tackle workplace grievances 1.3 Collective negotiation/bargaining for better working conditions 1.4 Share your goals to improve with a trusted co-worker or supervisor 1.5 Make a negativity log of every instance when you catch yourself complaining to others 1.6 Make lists and schedules for necessary activities
2. Unpleasant situation	May include but not limited to: 2.1 Job burn-out 2.2 Drug dependence 2.3 Sulking

EVIDENCE GUIDE

1. Critical aspects of Competency	**Assessment requires evidence that the candidate:** 1.1 Express emotions appropriately 1.2 Work independently and show initiative 1.3 Consistently demonstrate self-confidence and self-discipline
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 work improvement and sustainability 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 : CONTRIBUTE TO WORKPLACE INNOVATION

UNIT CODE : 400311214

UNIT DESCRIPTOR : This unit covers the knowledge, skills and attitudes required to make a pro-active and positive contribution to workplace innovation.

ELEMENT	PERFORMANCE CRITERIA *Italicized terms* are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
1. Identify opportunities to do things better	1.1. ***Opportunities for improvement*** are identified proactively in their own area of work 1.2. ***Information*** is gathered and reviewed which may be relevant to ideas and which might assist in gaining support for ideas	1.1. Roles of individuals in suggesting and making improvements. 1.2. Positive impacts and challenges in innovation. 1.3. Types of changes and responsibility 1.4. Seven habits of highly effective people	1.1. Identifying opportunities to improve and to do things better. Involvement 1.2. Identifying the positive impacts and the challenges of change and innovation 1.3. Identifying examples of the types of changes that are within and outside own scope of responsibility
2. Discuss and develop ideas with others	2.1 ***People who could provide input*** to ideas for improvements are identified 2.2 Ways of approaching people to begin sharing ideas are selected 2.3 Meeting is set with relevant people 2.4 Ideas for follow up are reviewed and selected	2.1 Roles of individuals in suggesting and making improvements 2.2 Positive impacts and challenges in innovation 2.3 Types of changes and responsibility 2.4 Seven habits of highly effective people	2.1 Identifying opportunities to improve and to do things better. Involvement 2.2 Identifying the positive impacts and the challenges of change and innovation 2.3 Providing examples of the types of changes that are within and outside own

ELEMENT	PERFORMANCE CRITERIA *Italicized terms* are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
	based on feedback 2.5 ***Critical inquiry method*** is used to discuss and develop ideas with others		scope of responsibility 2.4 Communicating ideas for change through small group discussions and meetings
3. Integrate ideas for change in the workplace	3.1 Critical inquiry method is used to integrate different ideas for change of key people. 3.2 Summarizing, analyzing and generalizing skills are used to extract salient points in the pool of ideas. 3.3 ***Reporting skills*** are likewise used to communicate results. 3.4 ***Current Issues and concerns*** on the systems, processes and procedures, as well as the need for simple innovative practices are identified.	3.1 Roles of individuals in suggesting and making improvements 3.2 Positive impacts and challenges in innovation 3.3 Types of changes and responsibility 3.4 Seven habits of highly effective people 3.5 Basic research skills	3.1 Identifying opportunities to improve and to do things better. Involvement 3.2 Identifying the positive impacts and the challenges of change and innovation 3.3 Providing examples of the types of changes that are within and outside own scope of responsibility 3.4 Communicating ideas for change through small group discussions and meetings 3.5 Demonstrating skills in analysis and interpretation of data

RANGE OF VARIABLES

VARIABLE	RANGE
1. Opportunities for improvement	May include but not limited to: 1.1 Systems 1.2 Processes 1.3 Procedures 1.4 Protocols 1.5 Codes 1.6 Practices
2. Information	May include but not limited to: 2.1 Workplace communication problems 2.2 Performance evaluation results 2.3 Team dynamics issues and concerns 2.4 Challenges on return of investment 2.5 New tools, processes and procedures 2.6 New people in the organization
3. People who could provide input	May include but not limited to: 3.1 Leaders 3.2 Managers 3.3 Specialists 3.4 Associates 3.5 Researchers 3.6 Supervisors 3.7 Staff 3.8 Consultants (external) 3.9 People outside the organization in the same field or similar expertise/industry 3.10 Clients
4. Critical inquiry method	May include but not limited to: 4.1 Preparation 4.2 Discussion 4.3 Clarification of goals 4.4 Negotiate towards a Win-Win outcome 4.5 Agreement 4.6 Implementation of a course of action 4.7 Effective verbal communication. See our pages: Verbal Communication and Effective Speaking 4.8 Listening 4.9 Reducing misunderstandings is a key part of effective negotiation 4.10 Rapport Building 4.11 Problem Solving 4.12 Decision Making 4.13 Assertiveness 4.14 Dealing with Difficult Situations
5. Reporting skills	May include but not limited to: 5.1 Data management 5.2 Coding 5.3 Data analysis and interpretation 5.4 Coherent writing 5.5 Speaking

EVIDENCE GUIDE

1. Critical aspects of Competency	**Assessment requires evidence that the candidate:** 1.1 Identified opportunities to do things better. 1.2 Discussed and developed ideas with others on how to contribute to workplace innovation. 1.3 Integrated ideas for change in the workplace. 1.4 Analyzed and reported rooms for innovation and learning in the workplace.
2. Resource Implications	**The following resources should be provided:** 2.1 Pens, papers and writing implements 2.2 Cartolina 2.3 Manila papers
3. Methods of Assessment	**Competency in this unit may be assessed through:** 3.1 Psychological and behavioral Interviews 3.2 Performance Evaluation 3.3 Life Narrative Inquiry 3.4 Review of portfolios of evidence and third-party workplace reports of on-the-job performance 3.5 Sensitivity analysis 3.6 Organizational analysis 3.7 Standardized assessment of character strengths and virtues applied
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 : PRESENT RELEVANT INFORMATION

UNIT CODE : 400311215

UNIT DESCRIPTOR : This unit covers the knowledge, skills and attitudes required to present data/information appropriately.

ELEMENT	PERFORMANCE CRITERIA *Italicized terms* are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
1. Gather data/ information	1.1. Evidence, facts and information are collected. 1.2. Evaluation, terms of reference and conditions are reviewed to determine whether data/information falls within project scope.	1.1. Organizational protocols 1.2. Confidentiality 1.3. Accuracy 1.4. Business mathematics and statistics 1.5. Data analysis techniques/procedures 1.6. Reporting requirements to a range of audiences 1.7. Legislation, policy and procedures relating to the conduct of evaluations 1.8. Organizational values, ethics and codes of conduct	1.1. Describing organizational protocols relating to client liaison 1.2. Protecting confidentiality 1.3. Describing accuracy 1.4. Computing business mathematics and statistics 1.5. Describing data analysis techniques/ procedures 1.6. Reporting requirements to a range of audiences 1.7. Stating legislation, policy and procedures relating to the conduct of evaluation 1.8. Stating organizational values, ethics and codes of conduct
2. Assess gathered data/ information	2.1. Validity of data/ information is assessed. 2.2. Analysis techniques are	2.1 Business mathematics and statistics 2.2 Data analysis techniques/ procedures	2.1 Computing business mathematics and statistics 2.2 Describing data analysis

ELEMENT	PERFORMANCE CRITERIA *Italicized terms* are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
	applied to assess data/ information. 2.3. Trends and anomalies are identified. 2.4. ***Data analysis techniques*** and procedures are documented. 2.5. Recommendations are made on areas of possible improvement.	2.3 Reporting requirements to a range of audiences 2.4 Legislation, policy and procedures relating to the conduct of evaluations 2.5 Organizational values, ethics and codes of conduct	techniques/ procedures 2.3 Reporting requirements to a range of audiences 2.4 Stating legislation, policy and procedures relating to the conduct of evaluations 2.5 Stating organizational values, ethics and codes of conduct
3. Record and present information	3.1 Studied data/ information are recorded. 3.2 Recommendations are analyzed for action to ensure they are compatible with the project's scope and terms of reference. 3.3 Interim and final reports are analyzed and outcomes are compared to the criteria established at the outset. 3.4 Findings are presented to stakeholders.	3.1 Data analysis techniques/ procedures 3.2 Reporting requirements to a range of audiences 3.3 Legislation, policy and procedures relating to the conduct of evaluations 3.4 Organizational values, ethics and codes of conduct	3.1 Describing data analysis techniques/ procedures 3.2 Reporting requirements to a range of audiences 3.3 Stating legislation, policy and procedures relating to the conduct of evaluations 3.4 Stating organizational values, ethics and codes of conduct practices

RANGE OF VARIABLES

VARIABLE	RANGE
1. Data analysis techniques	May include but limited to: 1.1 Domain analysis 1.2 Content analysis 1.3 Comparison technique

EVIDENCE GUIDE

1. Critical aspects of Competency	**Assessment requires evidence that the candidate:** 1.1 Determine data / information 1.2 Studied and applied gathered data/information 1.3 Recorded and studied data/information These aspects may be best assessed using a range of scenarios and 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.
2. Resource Implications	**Specific resources for assessment** 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.
3. Methods of Assessment	**Competency in this unit may be assessed through:** 3.1 Written Test 3.2 Interview 3.3 Portfolio 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.
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 : PRACTICE OCCUPATIONAL SAFETY AND HEALTH POLICIES AND PROCEDURES

UNIT CODE : 400311216

UNIT DESCRIPTOR : This unit covers the knowledge, skills and attitudes required to identify OSH compliance requirements, prepare OSH requirements for compliance, perform tasks in accordance with relevant OSH policies and procedures.

ELEMENT	PERFORMANCE CRITERIA *Italicized terms* are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
1. Identify OSH compliance requirements	1.1 Relevant ***OSH requirements, regulations, policies and procedures*** are identified in accordance with workplace policies and procedures. 1.2 OSH activity non-conformities are conveyed to ***appropriate personnel***. 1.3 ***OSH preventive and control requirements*** are identified in accordance with OSH work policies and procedures.	1.1 OSH preventive and control requirements 1.2 Hierarchy of Controls 1.3 Hazard Prevention and Control 1.4 General OSH principles 1.5 Work standards and procedures 1.6 Safe handling procedures of tools, equipment and materials 1.7 Standard emergency plan and procedures in the workplace	1.1 Communication skills 1.2 Interpersonal skills 1.3 Critical thinking skills 1.4 Observation skills
2. Prepare OSH requirements for compliance	2.1 OSH work activity material, tools and equipment requirements are identified in accordance with workplace policies and procedures.	2.1 Resources necessary to execute hierarchy of controls 2.2 General OSH principles 2.3 Work standards and procedures	2.1 Communication skills 2.2 Estimation skills 2.3 Interpersonal skills 2.4 Critical thinking skills 2.5 Observation skills

ELEMENT	PERFORMANCE CRITERIA *Italicized terms* are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
	2.2 Required OSH materials, tools and equipment are acquired in accordance with workplace policies and procedures 2.3 Required OSH materials, tools and equipment are arranged/ placed in accordance with OSH work standards	2.4 Safe handling procedures of tools, equipment and materials 2.5 Different OSH control measures	2.6 Material, tool and equipment identification skills
3. Perform tasks in accordance with relevant OSH policies and procedures	3.1 Relevant OSH work procedures are identified in accordance with workplace policies and procedures 3.2 Work Activities are executed in accordance with OSH work standards 3.3 ***Non-compliance work activities*** are reported to *appropriate personnel*	3.1 OSH work standards 3.2 Industry related work activities 3.3 General OSH principles 3.4 OSH Violations Non-compliance work activities	3.1 Communication skills 3.2 Interpersonal skills 3.3 Troubleshooting skills 3.4 Critical thinking skills 3.5 Observation skills

RANGE OF VARIABLES

VARIABLE	RANGE
1. OSH Requirements, Regulations, Policies and Procedures	May include but limited to: 1.1 Clean Air Act 1.2 Building code 1.3 National Electrical and Fire Safety Codes 1.4 Waste management statutes and rules 1.5 Permit to Operate 1.6 Philippine Occupational Safety and Health Standards 1.7 Department Order No. 13 (Construction Safety and Health) 1.8 ECC regulations
2. Appropriate Personnel	May include but limited to: 2.1 Manager 2.2 Safety Officer 2.3 EHS Offices 2.4 Supervisors 2.5 Team Leaders 2.6 Administrators 2.7 Stakeholders 2.8 Government Official 2.9 Key Personnel 2.10 Specialists 2.11 Himself
3. OSH Preventive and Control Requirements	May include but limited to: 3.1 Resources needed for removing hazard effectively 3.2 Resources needed for substitution or replacement 3.3 Resources needed to establishing engineering controls 3.4 Resources needed for enforcing administrative controls 3.5 Personal Protective equipment
4. Non OSH-Compliance Work Activities	May include non-compliance or observance of the following safety measures: 4.1 Violations that may lead to serious physical harm or death 4.2 Fall Protection 4.3 Hazard Communication 4.4 Respiratory Protection 4.5 Power Industrial Trucks 4.6 Lockout/Tag-out 4.7 Working at heights (use of ladder, scaffolding) 4.8 Electrical Wiring Methods 4.9 Machine Guarding 4.10 Electrical General Requirements 4.11 Asbestos work requirements 4.12 Excavations work requirements

EVIDENCE GUIDE

1. Critical aspects of Competency	**Assessment requires evidence that the candidate:** 1.1 Convey OSH work non-conformities to appropriate personnel 1.2 Identify OSH preventive and control requirements in accordance with OSH work policies and procedures 1.3 Identify OSH work activity material, tools and equipment requirements in accordance with workplace policies and procedures 1.4 Arrange/Place required OSH materials, tools and equipment in accordance with OSH work standards 1.5 Execute work activities in accordance with OSH work standards 1.6 Report OSH activity non-compliance work activities to appropriate personnel
2. Resource Implications	**The following resources should be provided:** 2.1 Facilities, materials tools and equipment necessary for the activity
3. Methods of Assessment	**Competency in this unit may be assessed through:** 3.1 Observation/Demonstration with oral questioning 3.2 Third party report
4. Context for Assessment	4.1 Competency may be assessed in the work place or in a simulated work place setting

UNIT OF COMPETENCY : EXERCISE EFFICIENT AND EFFECTIVE SUSTAINABLE PRACTICES IN THE WORKPLACE

UNIT CODE : 400311217

UNIT DESCRIPTOR : This unit covers knowledge, skills and attitude to identify the efficiency and effectiveness of resource utilization, determine causes of inefficiency and/or ineffectiveness of resource utilization and Convey inefficient and ineffective environmental practices.

ELEMENT	PERFORMANCE CRITERIA *Italicized terms* are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
1. Identify the efficiency and effectiveness of resource utilization	1.1 Required resource utilization in the workplace is measured using appropriate techniques 1.2 Data are recorded in accordance with workplace protocol 1.3 Recorded data are compared to determine the efficiency and effectiveness of resource utilization according to established ***environmental work procedures***	1.1 Importance of Environmental Literacy 1.2 Environmental Work Procedures 1.3 Waste Minimization 1.4 Efficient Energy Consumptions	1.1 Recording Skills 1.2 Writing Skills 1.3 Innovation Skills
2. Determine causes of inefficiency and/or ineffectiveness of resource utilization	2.1. Potential causes of inefficiency and/or ineffectiveness are listed. 2.2. Causes of inefficiency and/or ineffectiveness are identified	2.1 Causes of environmental inefficiencies and ineffective-ness	2.1. Deductive Reasoning Skills 2.2. Critical thinking 2.3. Problem Solving 2.4. Observation Skills

ELEMENT	PERFORMANCE CRITERIA *Italicized terms* are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
	through deductive reasoning. 2.3. Identified causes of inefficiency and/or ineffectiveness are validated through established environmental procedures.		
3. Convey inefficient and ineffective environmental practices	3.1 Efficiency and effectiveness of resource utilization are reported to *appropriate personnel*. 3.2 Concerns related to resource utilization are discussed with appropriate personnel. 3.3 Feedback on information/ concerns raised are clarified with appropriate personnel.	3.1 Appropriate Personnel to address the environmental hazards 3.1 Environmental corrective actions	3.1 Written and Oral Communication Skills 3.2 Critical thinking 3.3 Problem Solving 3.4 Observation Skills 3.2 Practice Environmental Awareness

RANGE OF VARIABLES

VARIABLE	RANGE
1. Environmental Work Procedures	May include but not limited to: 1.1 Utilization of Energy, Water, Fuel Procedures 1.2 Waste Segregation Procedures 1.3 Waste Disposal and Reuse Procedures 1.4 Waste Collection Procedures 1.5 Usage of Hazardous Materials Procedures 1.6 Chemical Application Procedures 1.7 Labeling Procedures
2. Appropriate Personnel	May include but not limited to: 2.1 Manager 2.2 Safety Officer 2.3 EHS Offices 2.4 Supervisors 2.5 Team Leaders 2.6 Administrators 2.7 Stakeholders 2.8 Government Official 2.9 Key Personnel 2.10 Specialists 2.11 Himself

EVIDENCE GUIDE

1. Critical aspects of Competency	**Assessment requires evidence that the candidate:** 1.1 Measured required resource utilization in the workplace using appropriate techniques 1.2 Recorded data in accordance with workplace protocol 1.3 Identified causes of inefficiency and/or ineffectiveness through deductive reasoning 1.4 Validate the identified causes of inefficiency and/or ineffectiveness thru established environmental procedures 1.5 Report efficiency and effectiveness of resource utilization to appropriate personnel 1.6 Clarify feedback on information/concerns raised with appropriate personnel
2. Resource Implications	**The following resources should be provided:** 2.1 Workplace 2.2 Tools, materials and equipment relevant to the tasks 2.3 PPE 2.4 Manuals and references
3. Methods of Assessment	**Competency in this unit may be assessed through:** 3.1 Demonstration 3.2 Oral questioning 3.3 Written examination
4. Context for Assessment	4.1 Competency assessment may occur in workplace or any appropriately simulated environment 4.2 Assessment shall be observed while task are being undertaken whether individually or in-group

UNIT OF COMPETENCY : PRACTICE ENTREPRENEURIAL SKILLS IN THE WORKPLACE

UNIT CODE : 400311218

UNIT DESCRIPTOR : This unit covers the outcomes required to apply entrepreneurial workplace best practices and implement cost-effective operations.

ELEMENT	PERFORMANCE CRITERIA *Italicized terms* are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
1. Apply entrepreneurial workplace best practices	1.1. ***Good practices*** relating to workplace operations are observed and selected following workplace policy. 1.2. Quality procedures and practices are complied with according to workplace requirements 1.3. Cost-conscious habits in ***resource utilization*** are applied based on industry standards.	1.1. Workplace best practices, policies and criteria 1.2. Resource utilization 1.3. Ways in fostering entrepreneurial attitudes: ● Patience ● Honesty ● Quality-consciousness ● Safety-consciousness ● Resourceful-ness	1.1. Communication skills 1.2. Complying with quality procedures
2. Communicate entrepreneurial workplace best practices	2.1 Observed good practices relating to workplace operations are communicated to the **appropriate person**. 2.2 Observed quality procedures and practices are communicated	2.1 Workplace best practices, policies and criteria 2.2 Resource utilization 2.3 Ways in fostering entrepreneurial attitudes: ● Patience ● Honesty ● Quality-consciousness	2.1 Communication skills 2.2 Complying with quality procedures 2.3 Following workplace communication protocol

ELEMENT	PERFORMANCE CRITERIA ***Italicized terms*** are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
	to the appropriate person. 2.3 Cost-conscious habits in resource utilization are communicated based on industry standards.	● Safety-consciousness ● Resourceful-ness	
3. Implement cost-effective operations	3.3 Preservation and optimization of workplace resources is implemented in accordance with enterprise policy. 3.4 Judicious use of workplace tools, equipment and materials are observed according to manual and work requirements. 3.5 Constructive contributions to office operations are made according to enterprise requirements. 3.6 Ability to work within one's allotted time and finances is sustained.	3.1 Optimization of workplace resources 3.2 5S procedures and concepts 3.3 Criteria for cost-effectiveness 3.4 Workplace productivity 3.5 Impact of entrepreneurial mindset to workplace productivity 3.6 Ways in fostering entrepreneurial attitudes: ● Quality-consciousness ● Safety-consciousness	3.1 Implementing preservation and optimizing workplace resources 3.2 Observing judicious use of workplace tools, equipment and materials 3.3 Making constructive contributions to office operations 3.4 Sustaining ability to work within allotted time and finances

RANGE OF VARIABLES

VARIABLE	RANGE
1. Good practices	May include but limited to: 1.1 Economy in use of resources 1.2 Documentation of quality practices
2. Resources utilization	May include but limited to: 2.1 Consumption/ use of consumables 2.2 Use/Maintenance of assigned equipment and furniture 2.3 Optimum use of allotted /available time

EVIDENCE GUIDE

1. Critical aspects of Competency	**Assessment requires evidence that the candidate:** 1.1 Demonstrated ability to identify and sustain cost-effective activities in the workplace 1.2 Demonstrated ability to practice entrepreneurial knowledge, skills and attitudes in the workplace.
2. Resource Implications	**The following resources should be provided:** 2.1 Simulated or actual workplace 2.2 Tools, materials and supplies needed to demonstrate the required tasks 2.3 References and manuals 2.3.1 Enterprise procedures manuals 2.3.2 Company quality policy
3. Methods of Assessment	**Competency in this unit should be assessed through:** 3.1 Interview 3.2 Third-party report
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 being undertaken whether individually or in-group

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 *Italicized terms* 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

ELEMENT	PERFORMANCE CRITERIA ***Italicized terms*** are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
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
3. Engage in quality improvement	3.1 Process improvement procedures are participated in relative to workplace assignment.	3.1. Quality improvement processes 3.2. Company customers defined	3.1. Solution providing and decision-making 3.2. Practice company process improvement procedure

ELEMENT	PERFORMANCE CRITERIA ***Italicized terms*** are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
	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.		

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 ***Italicized terms*** 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	2.1. 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

ELEMENT	PERFORMANCE CRITERIA ***Italicized terms*** are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
	2.4. Work is performed within ***ergonomic guidelines***		
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 3.4. Keyboard techniques are carried out in line with OH&S requirements for safe use of keyboards	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
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	5.1 Computer equipment/system basic maintenance procedures	5.1 Removing computer viruses from infected machines

ELEMENT	PERFORMANCE CRITERIA ***Italicized terms*** are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
	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	5.2 Viruses 5.3 OH&S principles and responsibilities 5.4 Calculating computer capacity 5.5 System Software 5.6 Basic file maintenance procedures	5.2 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. diskettes 4.2. CDs 4.3. zip disks 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

UNIT OF COMPETENCY: ENSURE COMPLIANCE WITH DATA PRIVACY AND ETHICS

UNIT CODE: **CS-ICT252101**

UNIT DESCRIPTOR: This unit covers the outcomes required to ensure data privacy, ethical handling, and the integrity of data throughout its lifecycle. It includes maintaining compliance with data privacy regulations, applying ethical guidelines, and implementing practices to safeguard data accuracy and reliability across various projects.

ELEMENT	PERFORMANCE CRITERIA ***Italicized terms*** are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
1. Comply with data privacy regulations	1.1. ***Data privacy regulations*** relevant to data handling are identified and followed based on industry standards 1.2. Data handling practices are ensured with Data privacy regulations 1.3. Secure storage practices are implemented to protect personal data based on industry standards	1.1. RA 10173 (Data Privacy Act of 2012). 1.2. Secure data storage protocols, including encryption and access control 1.3 Data Privacy Regulations	1.1. Identifying applicable data privacy regulations during annotation and labeling. 1.2. Following secure data handling procedures 1.3. Storing personal data in compliance with privacy laws
2. Apply ethical standards in data handling	2.1. ***Ethical guidelines*** are applied to avoid bias and promote fairness in data handling processes 2.2. Transparency in data usage is ensured through proper documentation of ***data handling practices***. 2.3. Consent for data usage is obtained and documented following ***ethical standards***	2.1. Knowledge of AI ethics principles, such as fairness, transparency, and accountability 2.2. RA 10175 (Cybercrime Prevention Act of 2012) 2.3. Importance of preventing bias in datasets and ensuring transparent practices	2.1. Applying ethical standards during annotation and labeling to avoid bias 2.2. Documenting data handling and usage practices 2.3. Obtaining and recording user consent for data usage

RANGE OF VARIABLES

VARIABLE	RANGE
1. Data privacy regulations	May include but not limited to: 1.1. RA 10173 (Data Privacy Act of 2012) 1.2. Organizational policies on data privacy
2. Ethical guidelines	May include but not limited to: 2.1. Guidelines to prevent bias in data annotation 2.2. Ethical AI principles 2.3. Transparency and accountability standards
3. Data handling practices	May include but not limited to: 3.1. Secure data transmission 3.2. Data anonymization 3.3. Data encryption
4. Ethical standards	May include but not limited to: 4.1. Fairness 4.2. Avoiding bias 4.3. Transparency 4.4. Accountability

EVIDENCE GUIDE

1. Critical aspects of competency	**Assessment requires evidence that the candidate:** 1.1 Complied with data privacy regulations 1.2 Applied ethical standards in data handling
2. Method of assessment	**The assessor may select from the following assessment methods but not limited to:** 2.1 Observation 2.2 Questioning 2.3 Practical demonstration
3. Resource implication	3.1 Access to relevant privacy regulations and ethical guidelines. 3.2 Documentation tools for compliance and tracking consent. 3.3 AI datasets requiring secure handling and compliance with privacy laws
4. Context of Assessment	4.1 Assessment may be conducted in a workplace or simulated environment.

CORE COMPETENCIES

UNIT OF COMPETENCY : IDENTIFY AND PREPARE DATA SOURCES

UNIT CODE : CS-ICT413201

UNIT DESCRIPTOR : This unit covers the outcomes required in identifying, accessing, and verifying data sources for artificial intelligence applications. It includes understanding various data types, evaluating data quality, and ensuring ethical data collection practices.

ELEMENT	PERFORMANCE CRITERIA *Italicized terms* are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
1. Identify relevant data sources	1.1. Types of ***data sources*** are researched and identified according to AI project requirements 1.2. ***Ethical considerations*** and data privacy regulations are reviewed and adhered to when selecting data sources 1.3. Data sources are evaluated for quality, relevance, and availability 1.4. ***Data formats*** and structures are verified to ensure compatibility with AI systems	1.1. Types of data sources 1.2. Ethical considerations and data privacy regulations 1.3. Data quality metrics 1.4. Common data formats	1.1. Researching and identifying relevant data sources 1.2. Applying data privacy and ethical standards in data selection 1.3. Analyzing and evaluating the quality and relevance of data sources 1.4. Assessing and verifying data format compatibility with AI systems
2. Plan data collection procedures	2.1. Appropriate ***tools and technologies*** are selected for collecting data	21 Tools and technologies for data collection 2.2 Data collection methods and	2.2 Selecting and using the right tools for data collection

	based on the project scope and ***data type*** 2.2. Clear and efficient data collection process is planned to minimize redundancy and maximize accuracy 2.3. Security measures and storage protocols are planned in compliance with data privacy regulations and company policies	best practices for efficiency 2.3 Data security practices and storage requirements	2.3 Planning and organizing efficient data collection processes 2.4 Implementing secure data storage and ensuring compliance with security protocols
3. Prepare Data for Collection and Use	3.1 Data is organized into ***structured formats*** according to project needs 3.2 Missing, incomplete or duplicate data is identified and addressed to ensure consistency 3.3 Metadata is documented to describe the source, type, and context of the data	3.1 Understanding of data formats and when to use each 3.2 Awareness of common data inconsistencies and handling methods 3.3 Importance of metadata and documentation in AI projects	3.1 Data organization skills 3.2 Identifying and correcting data inconsistencies 3.3 Documentation and metadata creation skills
4 Document and review data sources	4.1 ***Metadata*** is documented, including source, type, and context of collected data to ensure traceability and compliance 4.2 Data sources and documentation are regularly reviewed to ensure continuous quality	4.1 Metadata and its importance in AI projects 4.2 Procedures for regularly reviewing and maintaining data source documentation 4.3 Common data quality issues and rectification methods	4.1 Documenting metadata to ensure data traceability and accuracy 4.2 Reviewing and updating data source documentation to maintain data quality 4.3 Identifying and resolving data quality issues

	and relevance of the data 4.3 Any discrepancies or issues with data quality are addressed through proper documentation and rectification processes		and discrepancies

RANGE OF VARIABLES

VARIABLE	RANGE
1. Data sources	May include but not limited to: 1.1. Public datasets 1.2. Government records 1.3. Internal company databases (e.g., data lakes, data warehouse) 1.4. APIs 1.5. Social media platforms
2. Ethical considerations	May include but not limited to: 2.2 Privacy regulations (e.g., GDPR, Data Privacy Act of 2012 (PH), HIPAA, Colorado Privacy Act, Children's Online Privacy Protection Rule) 2.3 Informed consent 2.4 Data ownership 2.5 Anonymization techniques
3. Tools and technologies	May include but not limited to: 3.1 API clients 3.2 Web scraping libraries 3.3 Data extraction tools 3.4 Spreadsheets 3.5 Database applications 3.6 Programming Language
4. Data types	May include but not limited to: 4.1 Structured (databases, spreadsheets) 4.2 Unstructured (text, images, videos)
5. Data formats	May include but not limited to: 5.1 CSV 5.2 JSON 5.3 XML 5.4 Proprietary formats
6. Metadata	May include but not limited to: 6.1. Source 6.2. Date of collection 6.3. Data type 6.4. Usage rights
7. Data quality metrics	May include but not limited to: 6.1. Completeness 6.2. Consistency 6.3. Timeliness 6.4. Accuracy 6.5. Integrity

8. structure formats	May include but not limited to: 8.1. Tabular 8.2. Hierarchal 8.3. Relational database

EVIDENCE GUIDE

1. Critical aspects of competency	**Assessment requires evidence that the candidate:** 1.1. Researched and identified appropriate data sources according to AI project requirements 1.2. Followed ethical and privacy regulations when selecting data sources 1.3. Evaluated data sources for quality, relevance, and availability 1.4. Verified data formats to ensure compatibility with AI systems 1.5. Documented data sources, including metadata for tracking source, type, and context of data
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 may be assessed in actual workplace or at the designated TESDA accredited Assessment Center

UNIT OF COMPETENCY : **COLLECT DATA AND ENSURE BASIC DATA QUALITY**

UNIT CODE : **CS-ICT413202**

UNIT DESCRIPTOR : This unit covers the outcomes required to collect data f identified sources, clean and validate it, and ensure completeness, consistency, and usability for AI projects.

ELEMENT	PERFORMANCE CRITERIA *Italicized terms* are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
1. Collect data using appropriate methods	1.1. ***Data collection methods*** are identified and selected according to project requirements and data types 1.2. Data is collected from multiple ***data sources*** while adhering to data privacy regulations and ethical standards 1.3. Data is validated during collection to ensure quality and accuracy 1.4. Collected data is recorded and stored securely for aggregation and further processing	1.1. Surveys, APIs, and web scraping methods for data collection 1.2. RA 10173 (Data Privacy Act of 2012) 1.3. RA 10175 (Cybercrime Prevention Act of 2012) 1.4. RA 8293 (Intellectual Property Code of the Philippines) 1.5. Basic data validation techniques 1.6. Simple data storage practices	1.1. Applying appropriate data collection techniques based on data type and project scope. 1.2. Ensuring compliance with data privacy laws and ethical practices during data collection 1.3. Implementing real-time data validation to maintain data quality during collection. 1.4. Recording and securely storing collected data for further aggregation and analysis
2. Aggregate data from multiple sources	2.1 Data from multiple sources is combined to create a unified dataset for analysis. 2.2 ***Data formats*** are standardized and transformed	2.1 Principles of data aggregation and tools for combining data 2.2 Data transformation techniques and standardization	2.1 Aggregating data from various sources into a unified format for analysis. 2.2 Applying data transformation and

ELEMENT	PERFORMANCE CRITERIA *Italicized terms* are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
	where necessary to ensure compatibility with AI systems 2.3 Any discrepancies or duplicates in aggregated data are identified and resolved 2.4 Aggregated data is documented and prepared for analysis according to project requirements	of data formats. 2.3 Techniques for handling discrepancies, duplicates, and ensuring data integrity in data aggregation. 2.4 Procedures for documenting and organizing aggregated data for analysis	standardization processes to ensure data consistency 2.3 Identifying and resolving data inconsistencies and duplicates during data aggregation 2.4 Documenting and organizing aggregated data for analysis in AI systems
3. Maintain and ensure basic data quality	3.1 Aggregated data is organized and stored for easy retrieval and future use 3.2 Backup procedures are followed to ensure the safety and security of aggregated data 3.3 Access controls and security measures are applied to protect aggregated data	3.1 Best practices for organizing and managing large datasets for analysis. 3.2 Data backup methods and tools to ensure security and integrity of data 3.3 Data security protocols, including encryption and user access control techniques.	3.1 Organizing and managing aggregated data to ensure easy access for analysis and future use 3.2 Implementing effective data backup procedures to safeguard aggregated datasets 3.3 Applying data security measures to ensure the protection of aggregated data

RANGE OF VARIABLES

VARIABLE	RANGE
1. Data collection methods	May include but not limited to: 1.1. Surveys (digital or manual) 1.2. APIs 1.3. Web scraping 1.4. Databases 1.5. Sensor data 1.6. Media assets (e.g. images, videos, audio)
2. Data sources	May include but not limited to: 2.1. Public datasets 2.2. Internal company databases (e.g., data lakes, data warehouse) 2.3. Government records 2.4. Social media platforms 2.5. Web-scraped data
3. Data formats	May include but not limited to: 3.1. CSV 3.2. JSON 3.3. XML 3.4. Spreadsheets 3.5. Proprietary formats
4. Data validation techniques	May include but not limited to: 4.1. Cross-checking for completeness 4.2. Real-time validation checks 4.3. Accuracy checks 4.4. Validation against valid data ranges and formats
5. Data storage practices	May include but not limited to: 5.1. Cloud storage 5.2. Local storage 5.3. Encrypted storage 5.4. Secure data retention policies
6. Data aggregation tools	May include but not limited to: 6.1. Database management systems (SQL, NoSQL) 6.2. APIs 6.3. Spreadsheets 6.4. Programming languages
7. Data transformation	May include but not limited to: 7.1. Converting formats (CSV, JSON, XML) 7.2. Standardizing data fields 7.3. Cleaning data for compatibility
8. Data discrepancies	May include but not limited to: 8.1. Duplicates

VARIABLE	RANGE
	8.2. Missing values 8.3. Inconsistent data formats
9. Data quality metrics	May include but not limited to: 9.1. Accuracy 9.2. Completeness 9.3. Consistency 9.4. Timeliness
10. Backup methods	May include but not limited to: 10.1. Scheduled backups 10.2. Cloud backup 10.3. Local backup
11. Data security measures	May include but not limited to: 11.1. Encryption 11.2. Role-based access control 11.3. Multi-factor authentication
12. Documentation of data	May include but not limited to: 12.1. Metadata (source, date, type) 12.2. Version control 12.3. Compliance records for audit purposes
13. User feedback	May include but not limited to: 13.1 Surveys 13.2 Interviews 13.3 Data quality dashboards

EVIDENCE GUIDE

1. Critical aspects of Competency	**Assessment requires evidence that the candidate:** 1.1 Collected data using appropriate methods 1.2 Aggregated data from multiple sources 1.3 Maintained and ensured basic data quality
2. Resource Implications	**The following resources should be provided:** 2.1 Access to data collection tools (e.g., APIs, scraping tools). 2.2 Tools for data aggregation and management
3. Methods of Assessment	**Competency in this unit should be assessed through:** 3.1 Observation 3.2 Practical demonstration 3.3 Review of data collected, aggregated, and cleaned 3.4 Interviews or questioning
4. Context for Assessment	4.1. Assessment may be conducted in a workplace or simulated environment. 4.2. Tasks may be performed individually or in teams.

UNIT OF COMPETENCY : **PERFORM BASIC DATA ANNOTATION AND LABELLING**

UNIT CODE : **CS-ICT413203**

UNIT DESCRIPTOR : This unit covers the outcomes required to perform basic data annotation tasks, including applying annotation techniques for images, text, and audio.

ELEMENT	PERFORMANCE CRITERIA ***Italicized terms*** are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
1. Identify data annotation and labeling requirements	1.1 Annotation tasks and labeling tasks are identified based on project requirements and data types. 1.2 Guidelines for both annotation and labeling are reviewed to ensure alignment with project standards. 1.3 Requirements are clarified with relevant personnel	1.1 Types of annotation (e.g., image tagging, text markup) and labeling tasks (e.g., assigning categories) 1.2 RA 10173 (Data Privacy Act of 2012). 1.3 Understanding the purpose of annotated and labeled data in AI systems	1.1 Identifying specific annotation and labeling tasks based on data type and project requirements 1.2 Reviewing and interpreting project guidelines for annotation and labeling tasks
2. Perform data annotation	2.1 ***Annotation tools*** are selected and configured based on the specific ***data type*** and annotation task 2.2 Annotation is performed accurately following the defined ***annotation techniques*** 2.3 Annotations are checked for accuracy, completeness, and adherence to	2.1 Knowledge of common annotation tools (e.g., bounding boxes for images, tagging for text, etc.) 2.2 Basic annotation techniques (image bounding boxes, text tagging, audio labeling) 2.3 Key quality standards in data annotation,	2.1. Selecting and configuring the correct annotation tools for different data types. 2.2. Applying annotation techniques accurately to different data formats 2.3. Reviewing annotations for quality and making necessary corrections

ELEMENT	PERFORMANCE CRITERIA *Italicized terms* are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
	quality standards	such as accuracy, completeness, and consistency	
3. Perform data labeling	3.1 ***Labeling tools*** are selected and configured according to the ***data type*** and labeling needs 3.2 Labels are applied consistently across datasets following ***labeling guidelines*** 3.3 Labeled data is reviewed to ensure compliance with ***quality standards*** and project goals.	3.1 Familiarity with labeling tools (e.g., text tagging software, image classification tools) 3.2 Key principles of consistent and accurate labeling 3.3 Understanding labeling guidelines for different data types	3.4 Configuring and using labeling tools for specific tasks 3.1 Performing labeling tasks consistently and accurately 3.2 Reviewing labeled data for accuracy and consistency
4. Document and submit annotated and labeled data	4.1 Annotation and labeling processes are documented for ***future reference*** and transparency 4.2 Annotated and labeled data is stored according to ***submission requirements*** 4.3 Annotated and labeled data is submitted according to ***submission requirements***	4.1 Procedures for documenting annotation and labeling workflows. 4.2 Knowledge of file formats (e.g., CSV, JSON) and submission protocols 4.3 Compliance with project-specific data submission standards	4.1 Documenting annotation and labeling workflows for accountability 4.2 Organizing and submitting data in the correct format according to project guidelines

RANGE OF VARIABLES

VARIABLE	RANGE
1. Data annotation tasks	May include but limited to: 1.1. Image annotation 1.2. Text annotation 1.3. Audio annotation
2. Data labeling tasks	May include but limited to: 1.1. Image labeling 1.2. Text tagging 1.3. Audio labeling
3. Project requirements	May include but limited to: 3.1. Type of AI model 3.2. Volume of data 3.3. Accuracy expectations 3.4. Time constraints
4. Annotation standards	May include but limited to: 4.1. Accuracy guidelines 4.2. Completeness metrics 4.3. Consistency standards 4.4. Industry-specific standards
5. Annotation tools	May include but limited to: 5.1. Image annotation tools (e.g., bounding boxes, segmentation tools) 5.2. Text annotation tools (e.g., tagging, labeling tools)
6. Annotation techniques	May include but limited to: 6.1. Bounding boxes for images 6.2. Tagging for text 6.3. Labeling for audio
7. Data types	May include but limited to: 7.1. Images 7.2. Text 7.3. Audio
8. Data formats	May include but limited to: 8.1. CSV 8.2. JSON 8.3. XML 8.4. Proprietary formats
9. Quality standards	May include but limited to: 9.1. Accuracy 9.2. Completeness 9.3. Consistency

VARIABLE	RANGE
	9.4. Timeliness
10. Submission guidelines	May include but limited to: 10.1. File format 10.2. Naming conventions 10.3. Storage location 10.4. Metadata requirements

EVIDENCE GUIDE

1. Critical aspects of competency	**Assessment requires evidence that the candidate:** 1.1. Identified annotation and labeling tasks according to project requirements. 1.2. Performed annotation tasks accurately using appropriate tools. 1.3. Labeled data consistently according to guidelines. 1.4. Documented and submitted annotated and labeled data according to project requirements.
2. Method of assessment	**The assessor may select from the following assessment methods:** 2.1. Observation 2.2. Practical demonstration 2.3. Interviews or questioning 2.4. Review of documentation or reports prepared by the candidate 2.5. Written or oral examinations
3. Resource implication	Resources include: 3.1. Access to annotation and labeling tools 3.2. Project-specific guidelines for annotation and labeling tasks. 3.3. Datasets for annotation and labeling tasks.
4. Context of Assessment	4.1. Assessment may be conducted in the workplace or simulated environment.

GLOSSARY OF TERMS

Accuracy	The degree to which data or labels are correct and free from errors.
Annotation	The process of adding labels, tags, or metadata to data such as text, images, audio, or video to make it useful for machine learning.
Anonymization	A data privacy practice where personal identifiers are removed to protect individual identities.
API (Application Programming Interface)	A set of protocols and tools that allow different software applications to communicate with each other, often used to retrieve or send data between systems.
Bias	Systematic error or unfair representation in data or labeling that can affect the performance of AI models. Examples include stereotypes or unbalanced datasets.
Completeness	A data quality metric that ensures all necessary data points are present and available.
Consistency	Ensuring data values follow the same format and standard throughout the dataset.
Data Aggregation	The process of collecting and combining data from multiple sources into a single dataset.
Data Annotation	The process of marking or labeling data to make it usable for AI models (e.g., adding bounding boxes to images).
Data Ethics	Principles ensuring that data is collected, used, and shared in a way that is fair, transparent, and respects individual rights.
Data Labeling	Assigning categories or classifications to data, such as classifying images or tagging text data.
Data Lifecycle	The stages data goes through, from collection and storage to processing, use, and deletion.
Data Masking	The practice of hiding sensitive information by modifying the data while maintaining its usability.
Data Privacy	The protection of personal information from unauthorized access or misuse.
Data Quality	A measure of the condition of data, ensuring it is accurate, complete, consistent, and timely.

Data Retention Policy	Guidelines that define how long data must be stored and when it should be deleted.
Data Transformation	The process of converting data from one format or structure to another to make it usable for analysis or AI.
Encryption	A method of securing data by encoding it so that only authorized parties can access it.
Fairness	Ensuring that AI models and datasets do not promote bias or discrimination.
Metadata	Information that describes other data, such as the date it was collected, the source, and its format.
Outliers	Data points that significantly differ from the rest of the dataset, which may indicate errors or unique cases.
Quality Standards	A set of guidelines or benchmarks used to measure the quality of data or labeled outputs.
RA 10173 (Data Privacy Act of 2012)	A Philippine law ensuring the protection of personal data by regulating its collection, processing, and storage.
RA 10175 (Cybercrime Prevention Act of 2012)	A Philippine law addressing legal issues related to online activities, including unauthorized access, data breaches, and identity theft.
RA 8293 (Intellectual Property Code of the Philippines)	A law that protects intellectual property rights, including copyrights, patents, and trademarks.
Role-based Access Control (RBAC)	A security practice that restricts access to data based on the user's role within an organization.
Sampling Bias	A bias introduced when the dataset does not represent the target population accurately.
Secure Data Handling	Processes and tools used to ensure that data is protected from unauthorized access and breaches.
Stereotypes	Preconceived notions or assumptions that may lead to biased labeling or unfair data representation.
Timeliness	A data quality metric that ensures the data is up-to-date and relevant at the time of use.
Transparency	Ensuring that processes and practices, such as data labeling, are clear and openly communicated to stakeholders.
Validation	The process of ensuring data or annotations meet specific quality standards before they are used in AI models.

Web Scraping	A method used to extract large amounts of data from websites.

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